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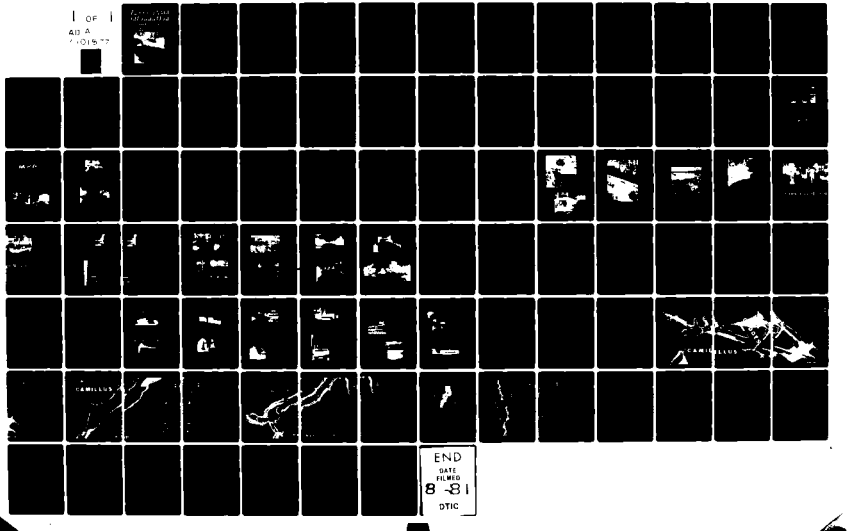

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FLOOD PLAIN INFORMATION

LEVEL II

NINEMILE CREEK

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TOWNS OF MARCELLUS, CAMILLUS AND GEDDES, ONONDAGA COUNTY, NEW YORK

Old mill stream goes berserk

PREPARED FOR THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BY THE DEPARTMENT OF THE ARMY, BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK OCTOBER 1976

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This report includes history of flooding on Ninemile Creek and identifies areas subject to possible future floods. Special emphasis is given to potential floods through maps, photographs, profiles, and cross sections. This report does not provide solutions to flood problems; however, it does furnish a suitable basis for the adoption of land use controls to guide flood plain development to minimize future loss. The report will aid in the identification of other flood damage reduction techniques, such as flood proofing, which might be embodied in an overall flood plain management (FPM) program. Other aspects of FPM, such as

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studies of environmental attributes and the relation of land use in the flood plain to the surrounding area, would also profit from this information.

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PREFACE

The 13.4 mile stretch of Ninemile Creek covered by this report extends from Onondaga Lake upstream to the southern border of the Village of Marcellus at Platt Road. Development in the flood plain is primarily residential and light industrial, and numerous open spaces exist in the flood plain which may come under pressure for future development. Significant flooding has occurred in the past, and studies indicate that larger floods are possible.

A knowledge of flood potential and flood hazards is important in land use planning and flood plain management. This report includes a history of flooding on Ninemile Creek and identifies areas subject to possible future floods. Special emphasis is given to potential floods through maps, photographs, profiles, and cross sections. The report does not provide solutions to flood problems; however, it does furnish a suitable basis for the adoption of land use controls to guide flood plain development to minimize future loss. The report will aid in the identification of other flood damage reduction techniques, such as flood proofing, which might be embodied in an overall flood plain management (FPM) program. Other aspects of FPM, such as studies of environmental attributes and the relation of land use in the flood plain to the surrounding area, would also profit from this information.

This report has been prepared by Dames & Moore under the direction of the Buffalo District of the U.S. Army Corps of Engineers. Section 206 of the 1960 Flood Control Act (Public Law 86-645), provides the Corps of Engineers continuing authority to compile and disseminate information on floods and flood damages upon the request of a state or local governmental agency. This report was prepared for the New York State Department of Environmental Conservation at the request of the Eastern Oswego Basin Regional

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tions within the flood plain.

The assistance and cooperation of federal, state [illegible] as well as that of universities, businesses and individuals supplying useful information and photographs of past floods is greatly appreciated.

Upon further request, the Corps of Engineers, Buffalo District Office, will provide technical assistance to planning agencies in the interpretation and use of the data presented. They will also provide planning guidance and further assistance, including the development of additional technical information.

BACKGROUND INFORMATION

SETTLEMENT

From its source at the north end of Otisco Lake to its mouth on the southwest shore of Onondaga Lake, Ninemile Creek flows through the Towns of Marcellus, Camillus, and Geddes in Onondaga County, New York.

Settled in the early 1790's, Marcellus was the site of the first mill erected on Ninemile Creek. The sawmill was operating by the spring of 1796. Because of its steep gradient, the stream was an ideal source of water power and attracted many industries. Numerous dams were constructed across the creek to provide water power. In the 1800's, Marcellus had a diversified industry including sawmills, grist mills, paper mills, cloth mills, tanneries, an iron works, a distillery and a brickmill.

Like Marcellus, Camillus was settled in the early 1790's. The first mills were constructed in 1805. Growth of local business was rapid. Industries in Camillus included sawmills, grist mills, cloth mills, tanneries, distilleries, a cider mill, a chair factory, a plaster mill, a pipe organ works, and the famous Camillus Cutlery Company, still active today.

In 1831, Camillus constructed the Ninemile Creek Canal. It was 20 feet wide, 2 1/2 miles long, and was used to transport logs to the various sawmills. Water for the canal was diverted from Ninemile Creek. In 1922, a large rain storm filled the canal with sediment. Because the facility was no longer used extensively, no attempt was made to reclaim it.

Settled in 1794, the Town of Geddes did not utilize Ninemile Creek to the extent that Marcellus and Camillus did. This was due in part to the reduced gradient of the stream in the area. In addition, the town was, and still is, heavily involved in chemical processing, not dependent on water power to any extent.

Ninemile Creek does not have an extremely violent or destructive flood history resulting from meteorologic events. It flows between two controlled lakes. This helps to stabilize the stream flows. The Otisco Lake Dam broke in 1865, causing destruction of bridges and mills downstream. No event of this magnitude has taken place since.

More efficient means of power generation gradually reduced the industrial utilization of Ninemile Creek. The industrial facilities of the 1800's are no longer active; however, many of the dams are still in place. The importance of Ninemile Creek has shifted from industry to recreation, although increasing levels of pollutants in the creek in recent years have somewhat reduced its recreational value.

THE STREAM AND ITS VALLEY

Ninemile Creek is the only outlet from Otisco Lake, the easternmost of the glacially carved Finger Lakes group. The 115 square mile Ninemile Creek drainage area, illustrated on Plate 1, includes the Spafford Creek watershed, which extends upstream of the southern end of Otisco Lake, into the Otisco Valley to the topographic divide about one mile south of the Onondaga and Cortland County boundary. The drainage area of Ninemile Creek is within Onondaga County except for approximately 2 square miles at

the headwaters of Spafford Creek near Bennett Hollow, which are in Cortland County. The elevation of the highest point in the watershed is 1915 feet msl* near Bennett Hollow. The lowest point is 363 feet msl, at Onondaga Lake.

Forty-four square miles or 38 percent of the Ninemile Creek drainage area lies upstream of the Otisco Lake outlet. The creek originates at the Otisco Lake Dam, and meanders northward in the confines of a U-shaped valley which is less than a half mile wide in most places. The stream bed drops from an elevation of about 780 feet immediately below the dam to 662 feet msl at mile 13.41, over a distance of about 4.5 miles. The study area begins at mile 13.41 on the southern boundary of the Village of Marcellus at Platt Road. From Platt Road to stream mile 10.2, just downstream from the Martisco Railroad Bridge, the creek drops another 237 feet to elevation 425 feet. The average slope of the stream over this section is 73.8 feet per mile. From this point the fall of the creek is more gradual. The stream bed drops to 357 feet at its mouth on the southwestern side of Onondaga Lake. This drop of 68 feet over 10 miles represents an average stream slope of 6.8 feet per mile downstream of Martisco.

Geddes Brook, a tributary of Ninemile Creek with a total drainage area of 3 square miles, joins Ninemile Creek 1.2 miles above its mouth. Another small tributary discharges into Ninemile Creek via a culvert at mile 6.5 in the Town of Camillus. Ninemile Creek discharges into Onondaga Lake and subsequently the Oswego River, which flows north into Lake Ontario. Drainage areas contributing to runoff at locations in or near the study area are shown in Table 1.

*All elevations in this report refer to the U.S.C. and G.S. (1929 Adjusted) Mean Sea Level Datum.

TABLE 1

DRAINAGE AREAS

At Locations on Ninemile Creek

Location	Drainage Area sq. mi.
Nine Mile Creek at Mouth (Lakeland).....	115.0
Above Geddes Brook.....	103.0
Van Buren Road Bridge.....	97.0
USGS Gage at Camillus.....	84.3
Unnamed Creek at Marcellus near Substation.....	69.0
Platt Road.....	65.0

The climate of this region is characterized by mild summers, with July averages of 71°F characteristic, and an absolute summer maximum of 98°F. Winter temperatures are often severe and may reach an absolute minimum of -26°F, although mean January temperatures of 24°F are characteristic. The average annual snowfall is 83 inches. While the total average annual precipitation is 35.3 inches, significant amounts of the precipitation occur during the spring, early summer, and fall, providing a major portion of the 11.1 inch water surplus which escapes as stream flow. Thus, about 31 percent of the average annual precipitation is not absorbed by the soil and becomes runoff water. Soil moisture is commonly depleted during the dry late summer months and a seasonal water deficit averaging 1.9 inches per year develops.

DEVELOPMENTS IN THE FLOOD PLAIN

The narrow flood plain of Ninemile Creek is developed with residential communities and small industries. Figure 1 shows the population growth in Onondaga County and the Villages of Marcellus and Camillus during the 1900's. Figure 2 depicts the land use distribution within the Ninemile Creek watershed.

Within the 13.4 mile length of study area, there are 28 bridges and seven dams on Ninemile Creek. Generally, these dams were built in the 1800's and early 1900's to provide water power for industries. Most of the dams do not offer any significant flood control capability. However, for smaller floods, some of the dams attenuate the flood peaks downstream. Dams 6 and 7 at 11.88 and 12.70 miles, respectively, fall under the above categories. The dams are all of similar construction and are the low flow type with little reservoir storage capacity.

There are several industrial firms located on or near the flood plains in the townships of Marcellus and Camillus. The most noteworthy of these firms is the Camillus Cutlery Company located on the west bank of Ninemile Creek just north of Genesee Street in the Village of Camillus. Within the Village of Marcellus a park has been created along Ninemile Creek between Platt Road and Main Street to prevent residential development within the flood plain. Dam 7 falls within the Marcellus Park.

The flood plain of Ninemile Creek downstream from the Village of Camillus widens appreciably. The only major residential developments in the flood plain downstream of Camillus are in the vicinity of Airport Road near Amboy and in the southeastern portion of Lakeland along Route 48.

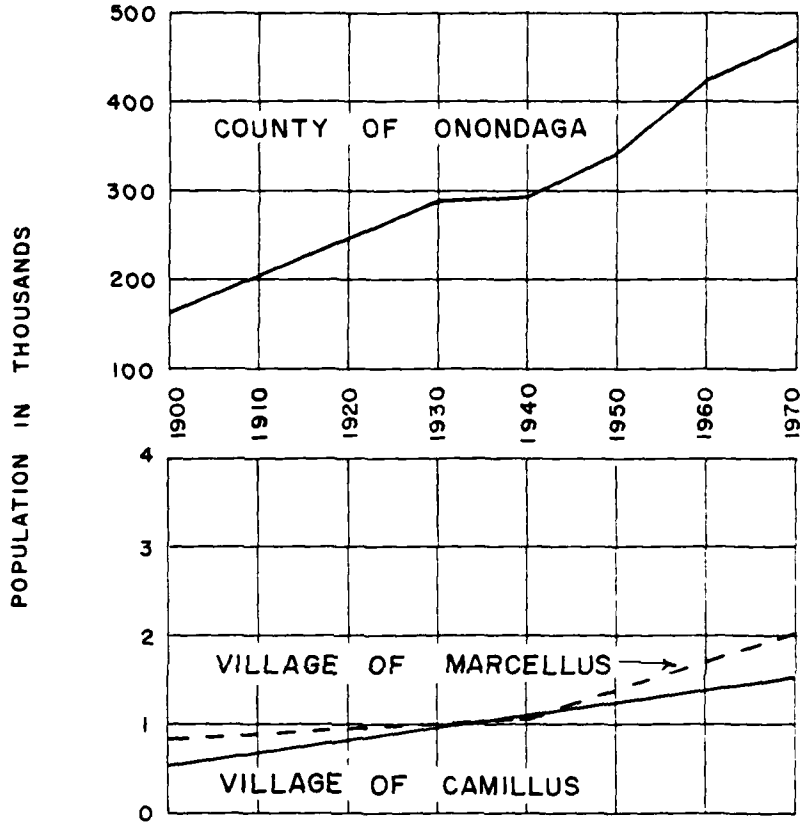
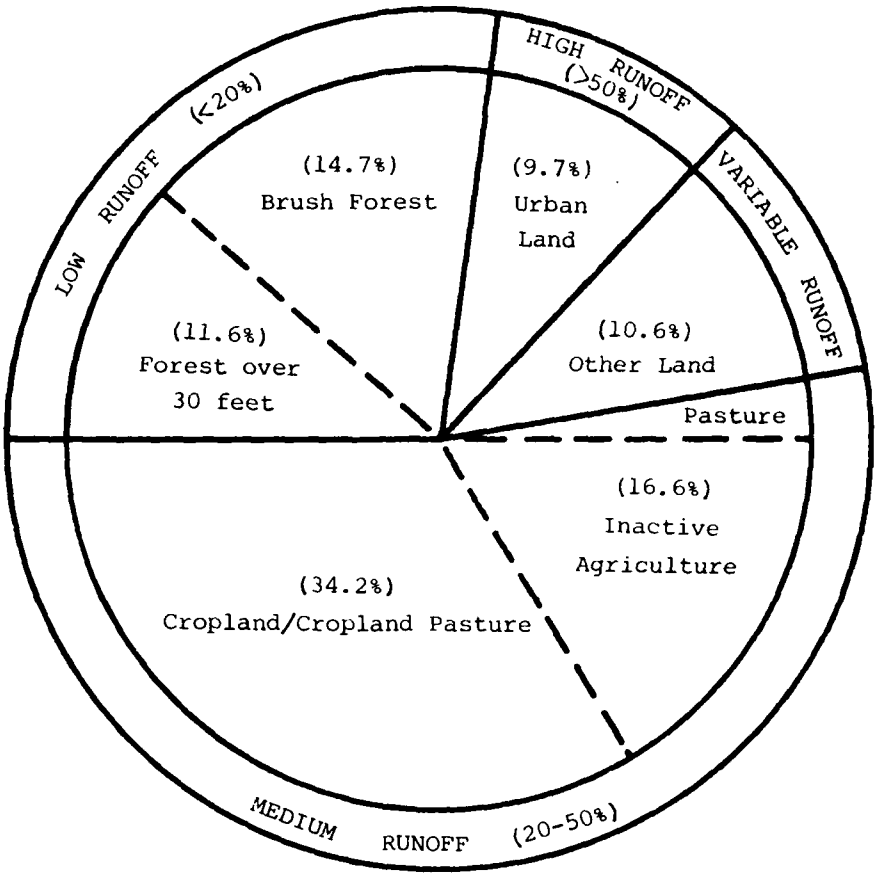


FIGURE 1- POPULATION GROWTH IN ONONDAGA COUNTY AND THE VILLAGES OF CAMILLUS AND MARCELLUS

FIGURE 2

Ninemile Creek Watershed

Land Use Distribution



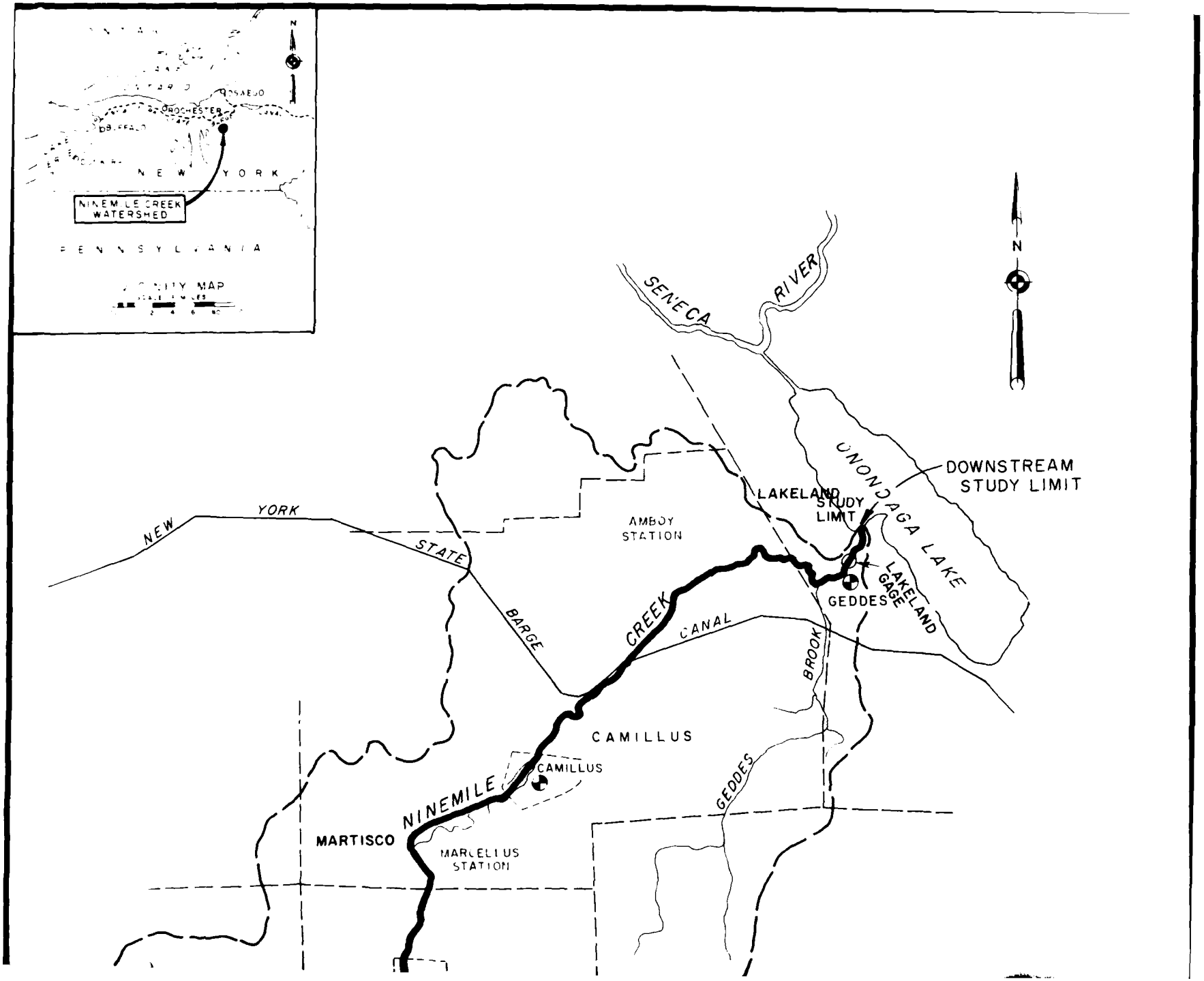
This Figure was adapted from Watershed Analysis, Ninemile Creek, N.Y. SUNY College of Forestry, Fall, 1971. Land use within the watershed was determined by using point grid land use maps produced by the Center for Aerial Photographic Studies at Cornell University, Ithaca, N.Y. The land use maps were prepared from aerial photographs taken during 1967 and 1968 and are part of the New York State Land Use and Natural Resources Inventory.

The Penn Central Transportation Company railroad (previously New York Central) traverses the Ninemile Creek flood plain in Camillus and Geddes. Industrial facilities located in Geddes include chemical process plants and tailings ponds, which lie partly in the eastern portion of the Town of Camillus. The State Fairgrounds Pavilion lies southeast of Ninemile Creek near the stream mouth and would be subject to flooding. Routes 48 and 690 cross Ninemile Creek near its mouth along with additional access routes from these roads to the Camillus Bypass (relocated Route 5) which is presently under construction.

The most significant current development in the study area is the westward extension of a four lane divided highway from U.S. Route 690 and State Route 5. The proposed route and uncompleted sections of this highway are shown on Plates 3 and 4 by a dashed line. This highway, referred to as relocated Route 5 or the Camillus Bypass, will cross Ninemile Creek at stream mile 5.56. Stream channel straightening and other alterations are underway from stream mile 5.35 to 5.6.

A second bridge is under construction at stream mile 7.08 in the Village of Camillus. This bridge is being built for the relocation of County Road 36 (North Street), which will offer access to the relocated Route 5. Both bridges were considered in the hydraulic analysis.

A temporary bridge has been installed on Ninemile Creek at stream mile 6.3 to facilitate stream crossings by construction equipment. This earthen bridge passes stream flow through two 8-foot and one 10-foot diameter corrugated steel pipes. It will be removed when the permanent installation at stream mile 5.56 is passable.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LAKELAND GAGE
GEDDES
AMBOY STATION
NEW YORK STATE BARGE CANAL
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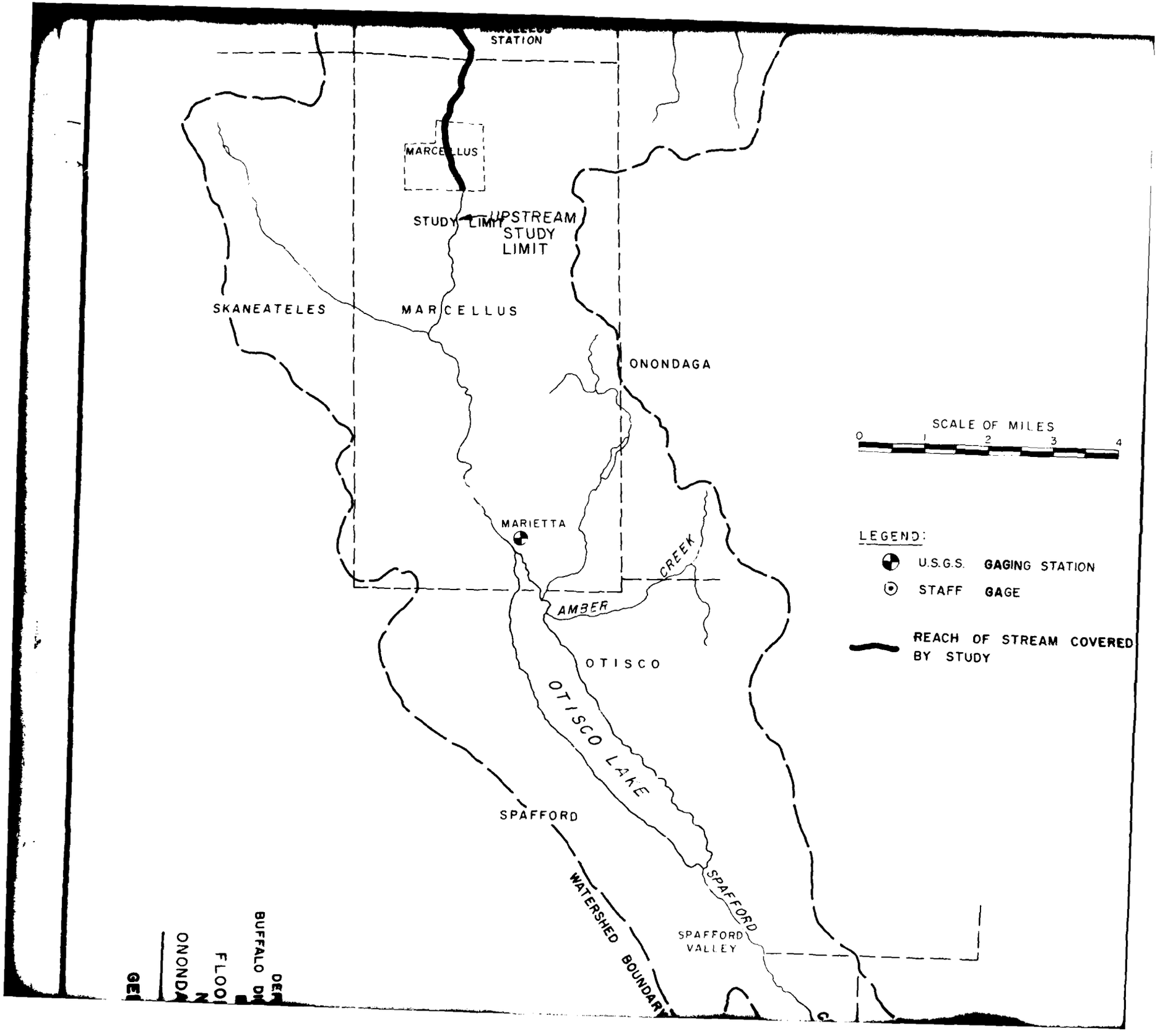
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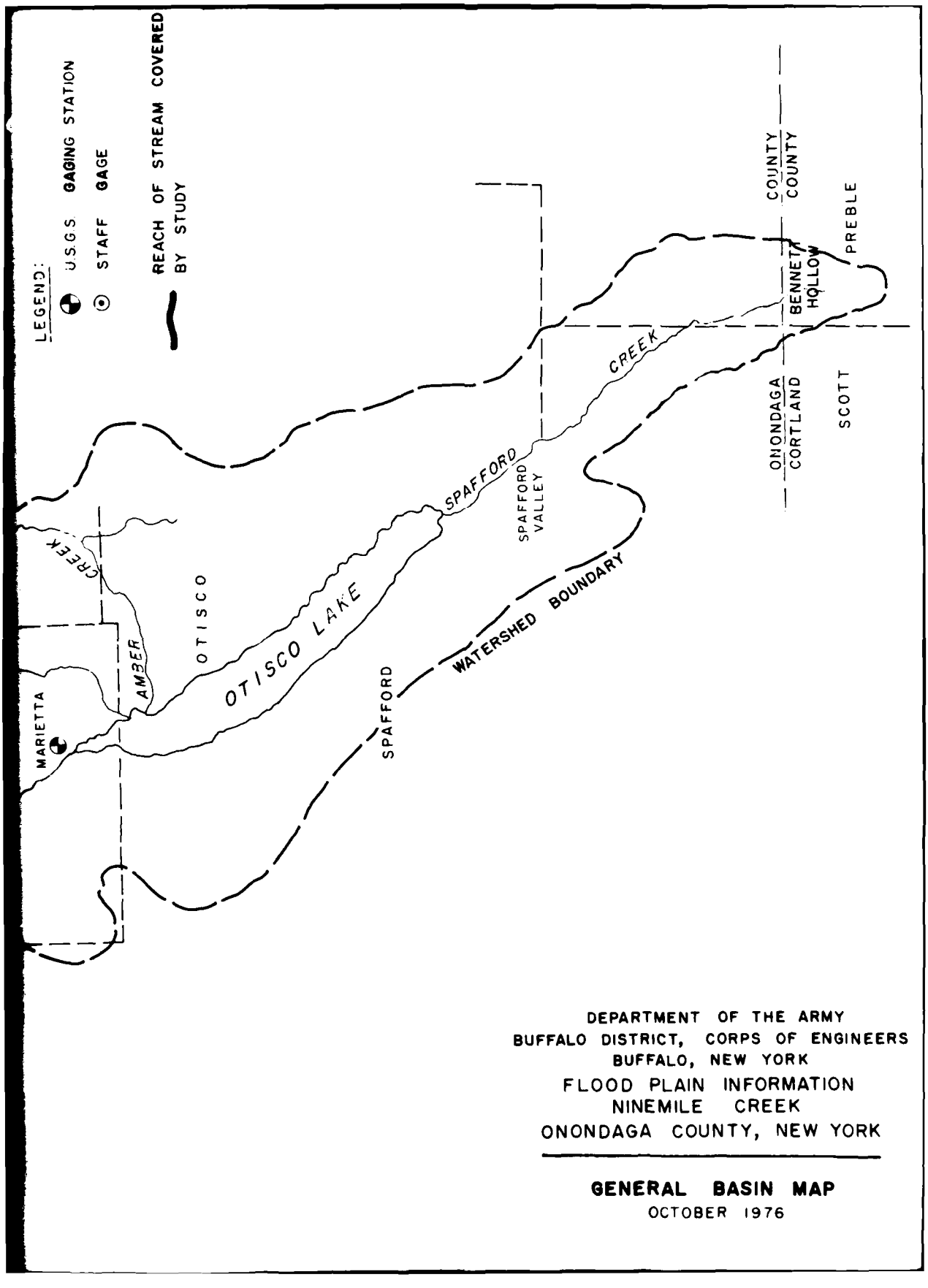


DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

GENERAL BASIN MAP

OCTOBER 1976

FLOOD SITUATION

SOURCES OF DATA AND RECORDS

The U.S. Geological Survey (USGS) maintains three recording stream gages on Ninemile Creek. In 1974 the responsibility for maintenance of these gages was transferred from the Albany, New York, office to the Ithaca, New York, office of the USGS, where records for past years are on file.

The southernmost gaging station is several miles upstream of the study area and has been in operation since June 1974. The station is located 25 feet upstream from the Schuyler Road Bridge, 0.9 miles north of Marietta, and 1.8 miles downstream from Otisco Lake. Another gaging station is located 150 feet downstream from the highway bridge on State Highway 5 (Genesee Street) in Camillus and 7.2 miles upstream from Onondaga Lake. Records from this station are available from July 1958. The third gaging station on Ninemile Creek is located 25 feet downstream from the State Route 48 bridge, 0.6 miles downstream from Geddes Brook, and 0.7 miles upstream from the mouth of the creek at Onondaga Lake. Records from this station are available from November 1970. This station was removed from service in 1973 because of regrading and construction of the new State Route 48 bridge over the creek. The USGS intends to re-establish a continuous recording gage in this area when construction is complete. A staff gage currently indicates, but does not record, water depth in the area.

To supplement the records provided by the gaging stations, newspaper files, historical accounts, documents and records were searched for information concerning past floods on Ninemile Creek. These records have helped to develop a knowledge of past high water periods.

Maps prepared for this report are based on U.S. Geological Survey 7 1/2 minute topographic sheets for the Camillus, N.Y., (1955); Marcellus, N.Y., (1955); and Syracuse West, N.Y., (1958) quadrangles. Structural data on bridges and culverts were obtained by field surveys performed by the Corps of Engineers, Buffalo District and from the detailed drawings supplied by the Department of Transportation, State of New York.

Field surveys of topographic data for modeling Ninemile Creek were performed by the Corps of Engineers, Buffalo District. In addition, the Buffalo District gathered essential hydrologic data including starting water surface elevations at the mouth of Ninemile Creek for use in backwater computations.

Crest stages and estimated discharges for known high water periods at the established gaging stations are shown on Tables 2, 3, and 4. All data from the Marietta, Camillus and Lakeland gaging stations were obtained from the USGS. The discharges on Ninemile Creek may be regulated to a limited degree by fluctuations of the water levels on Otisco Lake resulting from diversion of water to the City of Syracuse.

FLOOD SEASON AND FLOOD CHARACTERISTICS

No catastrophic floods have been recorded within the study reaches of Ninemile Creek except for the poorly documented flood of 1865 which resulted from the failure of the dam at the north end of Otisco Lake. Local flooding associated with high water stages and discharge peaks have occurred mostly from early February to late June. The February and March peaks are primarily a result of heavy rains accompanying frontal systems. Added runoff also results from snow melt and low permeability values from frozen ground.

TABLE 2

FLOOD CREST ELEVATIONS

MARIETTA GAGING STATION

Ninemile Creek on right bank 25 feet upstream from Schuyler Road Bridge, 0.9 mile north of Marietta, and 1.8 miles downstream from Otisco Lake

Date of Crest(a)	Estimated Peak Discharge(b) cfs	Stage(c) ft	Flood Crest Elevation(d) ft
June 23, 1972	1,030	8.65	768.65
April 4, 1974	668	7.09	767.09
July 3, 1974	418	5.71	765.71
June 28, 1968 & May 19, 1969	366	4.88	764.88
April 14, 1971	343	5.36	765.36
September 26, 1975	332	5.28	765.28

(a) Records available since June, 1964.

(b) Flow regulated by Otisco Lake from which water is diverted for City of Syracuse water supply. Drainage area = 45.5 sq mi.

(c) Estimated gage datum (water stage recorder) is 760 feet above mean sea level. No overbank stage level estimated.

(d) Feet, mean sea level datum.

TABLE 3

FLOOD CREST ELEVATIONS

CAMILLUS GAGING STATION

Ninemile Creek on right bank 150 feet downstream from
State Route 5 Bridge (Genesee Street)
in Camillus, 7.2 miles upstream from Onondaga Lake

Date of Crest(a)	Estimated Peak Discharge(b) cfs	Stage(c) ft	Flood Crest Elevation(d) ft
March 30, 1960	2,760	8.25	406.81
March 15, 1971	2,150	7.78	406.34
June 18, 1970	2,150	7.70	406.26
September 26, 1975	2,120*	10.83	409.39
February 26, 1961	2,040	7.67	406.23
June 23, 1972	1,930*	8.73	407.29
May 20, 1969	1,860	7.48	406.04
March 5, 1964	1,670	7.24	405.80
July 3, 1974	1,490	7.91	406.47
April 4, 1974	1,360*	8.38	406.94
March 26, 1963	1,010	6.07	404.63
April 5, 1973	953	6.31	404.87

(a) Records available since July, 1958.

(b) Flow regulated by Otisco Lake from which water is diverted for City of Syracuse water supply. Drainage area = 84.3 sq mi.

(c) Gage datum (water stage recorder) is 398.56 feet above mean sea level. Overbank stage estimated at 6 feet.

(d) Feet, mean sea level datum.

* Discharge corrected for artificially high stage level caused by local stream blockage and buildup of backwater.

TABLE 4

FLOOD CREST ELEVATIONS

LAKELAND GAGING STATION

Ninemile Creek on left bank, 25 feet downstream from State Route 48 Bridge, 0.6 mile downstream from Geddes Brook, and 0.7 mile upstream from mouth at Onondaga Lake

Date of Crest(a)	Estimated Peak Discharge(b) cfs	Stage(c) ft	Flood Crest Elevation(d) ft
September 26, 1975	2,410	8.75	369.42
June 23, 1972	2,290	8.58	369.25
April 5, 1973	1,710	7.61	368.28
March 16, 1971	1,600	7.12	367.79

(a) Records available since November, 1970. Gage not in operation during flood crest of July 3, 1974.

(b) Flow regulated by Otisco Lake from which water is diverted for City of Syracuse water supply. Drainage area = 115 sq. mi.

(c) Gage datum (water stage recorder) is 360.67 feet above mean sea level. Overbank stage estimated at 10 feet.

(d) Feet, mean sea level datum.

The maximum recorded discharge of 2760 cfs at the Camillus gaging station occurred on March 30, 1960, and resulted in a flood stage of 8.25 feet. Most other discharges in excess of 2000 cfs were recorded during the months of February and March. Severe early summer rainstorms and hurricane Agnes have caused large discharges and high stages during the month of June.

The precipitation accompanying hurricane Agnes during June 22, 23 and 24, 1972, caused the most severe flooding of record along Ninemile Creek as well as throughout the northeastern United States. All three stream gaging stations on Ninemile Creek recorded new highs for stage levels on June 23, 1972. The Marietta

and Lakeland gaging stations also recorded new highs for peak discharge. The discharge at the Camillus station was only the fifth highest on record. The anomalous stage/discharge relationship recorded at the Camillus station was described by the USGS as resulting from backwater created by a large tree and other debris obstructing the normal flow of the creek immediately downstream from the gaging station.

The records indicate that the Ninemile Creek flood plain is susceptible to high water conditions and possible severe flooding as a result of general heavy rainfall, snow melt in combination with rainfall, and hurricane activity. Flow can rise from normal flow to extreme peaks in a relatively short period of time with high velocities in the main channel of the creek. The stage hydrograph presented in Plate 13 demonstrates how quickly water levels rose to their peak at the Camillus gaging station during hurricane Agnes. It also demonstrates how obstructions and debris carried away in the flood waters can quickly block and disrupt the normal flow of the stream, creating a backwater situation and higher flood waters.

FACTORS AFFECTING FLOODING AND ITS IMPACT

Obstructions to Floodflows - Natural obstructions to floodflows include trees, brush and other vegetation growing along the the stream banks in floodway areas. Man-made encroachments on or over the streams such as dams, bridges and culverts can also create more extensive flooding than would otherwise occur. Representative bridges, dams and some obstructions to floodflows are shown in Figures 3 through 9.

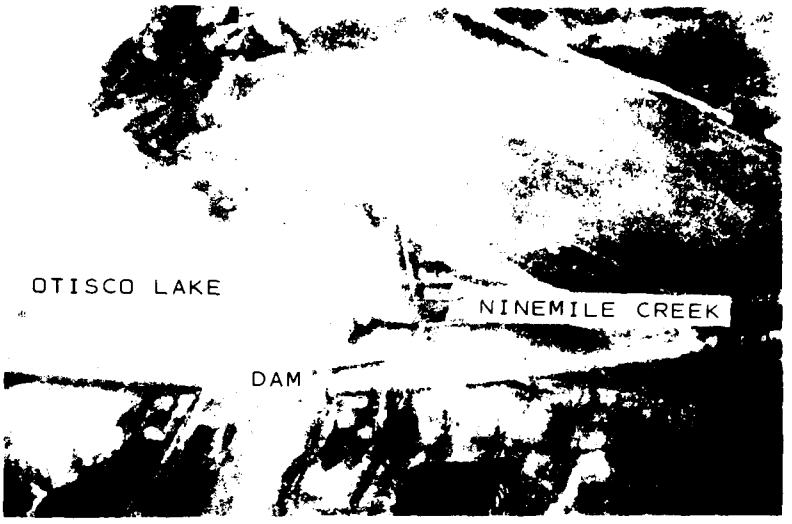


FIGURE 3 - Aerial view of Otisco Lake Dam where Ninemile Creek originates. Photo taken February 1, 1975.

FIGURE 4 - Bridge 7 at stream mile 2.03 provides access to landfill site in background. Note the debris pinned against the culverts obstructing normal flow, and the floatable debris in the landfill which could be swept away during a flood. Photo taken April, 1975.

FIGURE 5 - Fallen trees, logs and brush form natural obstructions to floodflows upstream of the Martisco Road Bridge at stream mile 10.3. Photo taken April, 1975.

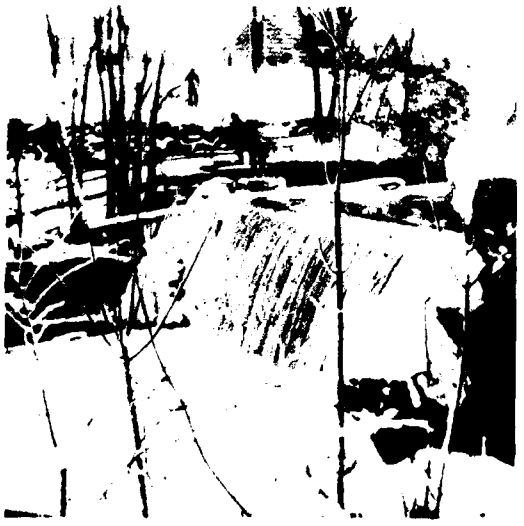


FIGURE 6 - Dam 7 located at the Brick Mill in Marcellus at stream mile 12.46. Photo taken December, 1975.

FIGURE 7 - Dam 6 located at an abandoned mill at stream mile 11.92 in Marcellus. Photo taken December, 1975.

FIGURE 8 - Dam 3 located at Marcellus Falls at stream mile 11.25. Photo taken December, 1968.

FIGURE 9 - Dam 1 located at stream mile 3.83 near the Warners Rd. bridge at Amboy in Camillus. A portion of the dam has been removed since the 1975 storm to reduce upstream flooding. Photo taken Sep 1979.

During floods, trees, brush and other vegetation growing in floodways impede floodflows, creating backwater and increased flood heights. Trees and other debris may be washed away and carried downstream to collect against bridges and other obstructions to flow. As floodflow increases, masses of debris break loose, and a wall of water and debris surges downstream until another obstruction is encountered. Debris may collect against a bridge until the load exceeds its structural capacity and the bridge is destroyed. The limited capacity of obstructed bridges and culverts combined with debris plugs at the culvert mouth retard floodflows and result in backwater flooding upstream, erosion around the culvert entrance or bridge approach embankments, and possible damage to the overlying roadbed.

In general, obstructions restrict floodflows and result in overbank flows, unpredictable areas of flooding, destruction of or damage to bridges and culverts, and an increased velocity of flow immediately downstream. It is impossible to predict the degree or location of the accumulation of debris; therefore, for the purposes of this report, it was necessary to assume that there would be no accumulation of debris to clog any of the bridge or culvert openings in the development of the flood profiles.

Within the study area Ninemile Creek is spanned by 28 bridges and culverts. Many of these bridges are obstructive to floodflows. All future encroachments onto the study area floodways with their necessary channel capacity improvements and all future developments within the watershed which would significantly increase the volume or rate of runoff should be carefully studied as to their impact not only upon the immediate flood plain situation but also upon future flood stages.

Flood Damage Reduction Measures - The Otisco Lake Dam, although several miles upstream from the study limit at stream mile 13.4, is a major structure controlling discharge of water from Otisco Lake to Ninemile Creek. The dam is operated and maintained by the Onondaga County Water Authority (OCWA) which diverts water from the lake for the City of Syracuse water supply.

The first known dam on Otisco Lake was constructed in the mid 1800's to provide water for the Erie Canal. Historical records indicate that in 1865, flood waters from the Otisco Lake dam failure caused considerable damage to structures built along the creek within the study area. In 1868 another dam with a causeway and road surface was constructed at the north end of Otisco Lake to impound water for the City of Syracuse. This dam had operable gates to control water discharges from the lake. In 1908 a supplemental earthen dam was built about 25 feet downstream from the 1868 dam. This new dam enabled authorities to raise the water level of Otisco Lake about 3 feet to its current normal elevation of 786.60 feet msl when water is just cresting the lip of the dam. In the early 1960's this earthen dam was modified and strengthed structurally with concrete.

Authorities* believe the 1868 dam, which is now under water except during extreme low water conditions, is still operable. Its gates, fully open since the water level of the lake was raised in 1909, were closed during the 1960's for reconstruction. The gates were again opened when reconstruction was complete. The 1868 dam is considered a possible back-up dam to the current structure. However, some repairs would be needed if this dam were put into use.

The maximum water depth overflowing the current spillway was 28 1/2 inches, recorded on June 23, 1972, during hurricane Agnes. At that time the discharge gates of the dam were partially open.

*W. Frendak, OCWA, personal conservation on March 20, 1975.

Authorities indicated that their primary concern was preventing further flood damage from excessively high water levels on Otisco Lake. Possible flood damage within the study area due to excessively high discharges of lake water into Ninemile Creek was of a lesser concern.

In April of 1956 a clearing and snagging project for Ninemile Creek in the Village of Camillus was performed by the Army Corps of Engineers, Buffalo District. This project involved removal of fallen trees and logs, trimming overhanging branches, removal of shoals within the stream bed, removal of trees within the stream bed, bank widening (cutting back the bank to the natural slope), and building up the bank with spoil from the stream bed. The main objective of the project was to remove obstructions to flood-flow waters. At the crossing of Ninemile Creek and Genesee Street in the Village of Camillus, the limits of this snagging project extended 600 feet east of the stream itself.

No clearing and snagging work has been performed since the 1956 project and there has evidently been a buildup of debris in the Ninemile Creek flood plain between Amboy at Warners Road and the Village of Camillus near Genesee Street. An exceptionally large amount of debris remains in the flood plain of Ninemile Creek north of the Village of Camillus as a result of the last substantial flood on July 2, 3, and 4, 1974.

Between Martisco and Marcellus Falls, from stream mile 10.6 to approximately stream mile 10.9, gabion protection has been added to both sides of the stream banks to stabilize the otherwise soft stream embankments and to hold the swiftly flowing creek within its banks.

In 1975 the Village of Camillus completed the installation of a culvert and drainage pipe system to help alleviate the recurrent flooding experienced in the southwestern section. An unnamed creek, often referred to locally as Mud Creek, whose headwaters originate in the Howlett Hill area, flows into the Village of Camillus from the southeast side and passes under the Penn Central Transportation Company railroad tracks at Route 5. Previously, the discharge of this creek was routed west through the southern portion of the Village of Camillus, crossing South Street south of its intersection with Green Street and proceeding westward into Ninemile Creek. The recently installed 48 inch diameter storm sewer carries runoff waters directly from the box culvert under the railroad tracks at Route 5 to a point in Ninemile Creek downstream of the village. A quarter million dollar proposal for further drainage improvement and sewage treatment for the Town of Camillus is under consideration by the town.

There are no existing city or county zoning ordinances, building codes, or other regulatory measures specifically for the reduction of flood damages. A general study entitled "Onondaga Flood Study" was prepared by the Onondaga County Planning Agency in 1973. The study described in this report has been requested so that it may be used as a basis for the development of flood plain management regulatory measures as they are revised or implemented by the county or villages within the study area.

Other Factors and Their Impacts

Flood insurance - As of March, 1975, almost all towns within Onondaga County had prepared and filed applications to become eligible for the Federal Flood Insurance Program under the Department of Housing and Urban Development Flood Insurance

Administration. The towns of Marcellus and Geddes have been preparing the applications, while the Town of Camillus has recently become eligible for Federal insurance. The Villages of Camillus and Marcellus are currently participating in the Federal Flood Insurance Program.

Flood warning and forecasting - The National Oceanic and Atmospheric Administration (NOAA) does not presently maintain a river district office for Central New York. This area is designated as unprotected and does not receive regular river flood warnings. NOAA does maintain year-round surveillance of weather conditions at Syracuse, New York. Flash flood warnings, based on high intensity precipitation, and anticipated weather conditions are issued by the National Weather Service to city officials, radio and television stations and the local press for further dissemination to residents of the area. When the National Weather Service's forecasts indicate that high water stages could be expected, observations of river stages are made at strategic locations by personnel from the Buffalo District Office of the Army Corps of Engineers.

Flood fighting and emergency evacuation plans - There are no formal flood fighting or emergency evacuation plans for the Marcellus-Camillus-Geddes area. Provisions for alerting area residents and coordinating operations of city and county public service agencies in time of emergency are accomplished through the Onondaga County Civil Defense Office. This office maintains communication with the State Civil Defense Headquarters, National Weather Service at its control center and establishes a "flood watch" during the earliest stages of a flood threat. Subsequent flood fighting, evacuation, and rescue activities are coordinated on a county-wide basis with the Army Corps of Engineers and local public agencies, including police, fire, and public works departments.

PAST FLOODS

SUMMARY OF HISTORICAL FLOODS

The first recorded flood damage on Ninemile Creek occurred in 1865. The failure of an early dam at the north end of Otisco Lake resulted in a flood which did heavy damage to industries located adjacent to the creek. Since that time a modern structural dam has been built at the outlet of Otisco Lake, virtually eliminating dam failure as a probable cause for flooding on Ninemile Creek. However, heavy rains, especially those occurring in the spring, combined with snow melt, have frequently caused high waters and local flooding within the study area. Stream records indicate unusually high water levels and large discharges on March 30, 1960, March 15, 1971, and June 18, 1970, although there are no newspaper accounts to indicate severe or widespread flooding. The most severe basin wide flooding on record occurred on June 22 and 23, 1972 during hurricane Agnes. On July 2 and 3, 1974, heavy rains accompanied by severe thunderstorms produced locally severe flooding and substantial damage. More recently, heavy rains together with the obstructions to flow produced by highway construction caused the highest stage of record and most damaging flood ever at Camillus on September 26, 1975.

FLOOD RECORDS

Information on floods in the Ninemile Creek Flood Plain is obtained from three stream gaging stations maintained by the U.S. Geological Survey. The Marietta gaging station has records available from June, 1964; the Camillus gaging station has been in operation since July 1958 and the Lakeland gaging station has been in operation intermittently since November, 1970. Photographs of high water marks of past floods were obtained, several residents along the creek were interviewed, and newspaper files, libraries, and historical documents were searched for information concerning past floods.

FLOOD DESCRIPTIONS

The following pages of excerpts from Syracuse area newspapers describe the two worst local floods which have occurred in recent times and serve as illustrative examples of the type and nature of flooding. These are the June, 1972 flood caused by hurricane Agnes and the July, 1974 flood resulting from heavy precipitation accompanying severe summer thunderstorms. Figures 10 through 17 are supplemental photographs of these floods and previous local floods of lesser extent. Plate 13 shows a graph of stage levels at the Camillus gaging station recorded over a 6 day period including the hurricane Agnes. It is important to bear in mind that none of the floods of record have produced flows which are half as large as that of the Intermediate Regional Flood or even one-seventh as large as the Standard Project Flood.

Creek Closes Camillus Firm

By EDWARD P. DUNN

Nine-mile Creek normally a small, smoothrunning stream that travels through Camillus and Marcellus, has become swift and dangerous, flooding a number of Camillus homes, closing Camillus Cutlery Co., and producing a crack in a Marcellus dam.

Camillus Cutlery Co. president, Nilo M. Miori, said he received a call about 3:15 a.m. yesterday from the plant's night watchman. The watchman said water was leaking through walls from Nine-Mile Creek, which runs along-side the kitchen cutlery and knife factory.

Within hours, Nilo said, water was not only coming through walls of the plant, but was seeping through the floor. He estimated his loss from a shutdown that he hopes will end Monday, coupled with labor costs to remove water and damage to machinery, will be between $40,000 and $50,000.

"In my 40 years here" Nilo said, "this is worst I've ever seen."

A serious threat was posed when the water level in the plant came to within two inches of a 440-voltage regulator. Another threat came when water seeped towards openings in lead pots. Should water mix with the boiling lead an explosion would result, Nilo said.

Camillus Fire Chief Wallace Rockwell said water rising toward the voltage regulator created "a very dangerous situation."

Nearly 100 employes and firemen worked in the early hours of yesterday morning to avert a possible disaster at the plant, Nilo explained.

The grinding department received the most damage, he said, with water marks nearly 11 inches from the floor.

Nilo plans to open the plant Monday, pending results of tests to be performed by electricians on machines that possibly were short-circuited by the flooding. Machine damage could delay opening of the plant nearly a week, Nilo said.

A crack in a dam at Glover Road and Route 174, Marcellus, was inspected by Marcellus Village Supervisor Bernard Reagan and other officials. The crack was said to pose no immediate threat to the area.

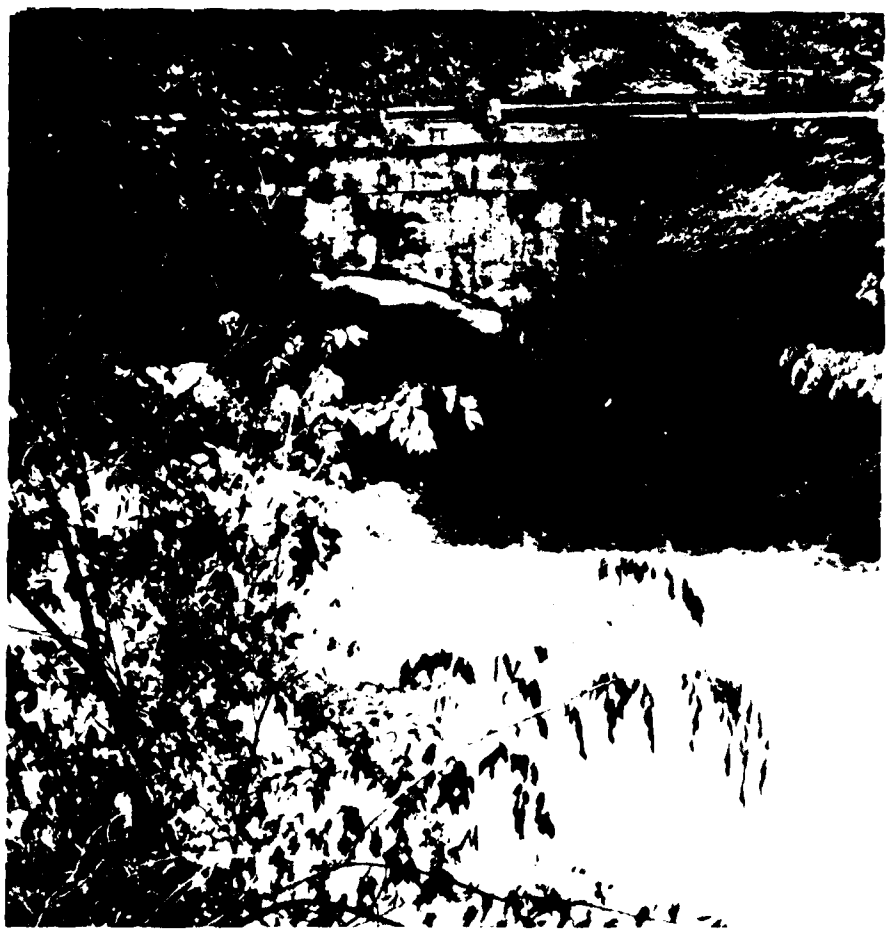
First chief of the Camillus Fire Department, Dick Goodale, said that "if it hasn't broken by now, it won't break."

A rock slide temporarily closed the junction of Route 174 and Route 321 early yesterday, near the Gorge Inn, a County Highway Department spokesman said.

Joseph Robideau of the U.S. Geological Survey, who was called in the Syracuse area along with seven other surveyors, described the creek in this way: "Normally the height is four feet — now it's near eight."

Robideau and Mark Have while working at the bridge in front of the Cutlery in Camillus said the stream, which "normally moves at 300 cubic feet per second, is now moving at about 1,700 cubic feet per second."

Excerpt simulated from the Post Standard June 24, 1972.



June 22, 1972 at
stream mile 12.84.

Look out Camillus!

Shown here is the creek on its merry way to Camillus, under Rt. 175.

June 23, 1972
looking downstream
at stream mile 7.1.

Camillus Cutlery plant was closed down because of flooding.

Velocity Readings

Two U.S. geological surveyors [illegible] Robideau left, and Mark [illegible] lower a velocity meter which measures the speed of water into swollen Nine Mile Creek off the Route [illegible] bridge in downtown Camillus yesterday, [illegible] for more facts on the creek whose flooding banks have closed the Ca[illegible] [illegible] an estimated $[illegible] damage to the [illegible] and caused [illegible] the Marcellus [illegible] on this normally [illegible] Readings taken [illegible] showed the water was [illegible]

Flooding on June 22 and 23, 1972

Photo of Dam 3 at stream mile 11.25.

Cascades over Marcellus dam

Normally calm Nine Mile Creek, swollen by heavy rains, cascaded over Marcellus dam this past week, causing a slight crack in the dam. Area homes were flooded. Camillus Cutlery Co., President Nilo Miori estimated, has suffered $25,000 to $30,000 in damages. Their 200 motors were under water at one time during the weekend. Miori is happy that there has been a loss of only five, six or seven of the motors; the plant was able to operate Monday again, not full-force however. Men were cleaning up the dirt at the plant 'til midnight Friday, 11 p.m. Saturday, all day Sunday and were still at it Monday.

June 22, 1972
near stream
mile 12.7.

On a clear day, I can see . . .

The view from the home of Mrs. Bonnie Pellegra of Marcellus, who owns the Falls View Antique shop overlooking the river.

Tons of water surge over dam

Tons and tons of water surging over the dam and cascading downstream with enough force to crush anything that stood in its path, slamming into rocks and forcing up what seemed like mountains of water almost 20 feet into the air. This sight went on continually, without interruption, until you couldn't comprehend the idea that such a force could exist in nature.

This is what it was like on the afternoon of Thursday, June 22, at the Marcellus dam on Nine-mile Creek, half a mile downstream from the Martisco Paper Company along Route 174.

I interviewed Lieut. Gary Proper of the Camillus Fire Department, who explained that the County Fire Control had declared the situation critical and that his department was attempting to get the sheriffs to close the road near the dam except for residents and emergency vehicles. He explained that no one was sure if the dam would go, but that if heavier rains came it was expected to break. Proper also explained that the people most in danger would be Camillus residents living on or near the banks of the river. However, he added that a system had been set up in the village whereby a siren would sound in the event that the dam broke and the residents in danger would be evacuated.

When asked for a personal evaluation of the situation, Proper replied, that they were just taking precautionary measures, but he did allow that "anybody who goes near that river, just doesn't have a prayer."

I then talked with Deputy Sheriff Robert L. Sherwin who explained that it was the tremendous water pressure along with some debris from farther upstream that could possibly cause the dam to break. He emphasized, as did Lieut. Proper, that only precautionary measures were being taken.

I also talked with Mrs. Mabel Miller, whose house is right next to the dam. Mrs. Miller stated that she had lived next to the dam for 15 years and had seen the water just as high in previous years. She said that the dam, which was built in 1921, had held a lot of water pressure before and would probably do it again. When she was asked if she was scared, she replied, "No, not really, the sheriff has suggested that I evacuate, but I have no plans."

As I prepared to leave the scene at 3:30 p.m., I saw that flares had been placed on the road a half-mile in either direction of the dam, the situation at the dam was still critical and I noticed dark clouds coming in overhead.

Final

THE POST-STANDA

[illegible] YEAR [illegible] SYRACUSE, N.Y., THURSDAY, JUNE 4, 1964

Fast rising flood waters on the city's near Southwest Side forced hundreds of people to evacuate their homes. At left, a group of men loaded a truck with furniture well before the water became deep, but became stuck in the mud. A youngster, center, keeps his feet dry by riding in his father's arms on Sterling Avenue. At right, a family of three on Hudson Street and the family dog are taken from their

1,000 Flee High W

By HOWARD FISCHER

More than 1,000 city and county residents were evacuated from their homes yesterday in the worst local flooding in recent history.

The major problems centered along Onondaga Creek and its tributaries but very few low-lying sections were spared the wrath of the high waters.

One man was critically injured in a storm-related house [illegible] in Pompey. In Fully, 19 cows were killed when the barn was struck by lightning.

Early yesterday morning, emergency crews began evacuating homes along Harbor Brook Creek in the Grand Avenue - Lydell Street area. The normally placid creek overflowed its banks, flooding virtually every basement in the area.

Related Flood Stories and Pictures Pages 7 and 13

Deputy Police Chief Frederick Scharoun said extra policemen were called in to aid in the emergency.

With city fire fighters and volunteers from county fire departments working together, the houses were evacuated. By mid afternoon, though, Scharoun said the water had "suddenly receded" along the creek.

But the water was still high along Onondaga Creek and six more city blocks in the near Southwest side had to be evacuated.

Because of the depth of the water, boats and other amphibious vehicles were used to take people from their homes.

"They told everybody that they had to vacate their homes...that it was the chief's orders," said Mrs. Frank Weaver. Fire Chief Thomas F [illegible] Haddon afraid [illegible] electrical [illegible] plosions from [illegible] stood by as the [illegible] forces.

Mrs. Weave [illegible] house at 219 [illegible] ternoon, whe [illegible] ter had subs [illegible] it didn't take [illegible] to get her, [illegible] 10-year-old s [illegible] about 11:30 a.

"It was up [illegible]

TANDARD

Variable cloudiness with 30 per cent chance of thunderstorm activity
High today 90
Low tonight

JULY 4 1974 5 CENTS

Sterling Avenue. At right, a family of three street and the family dog are taken from their home by Bridgeport volunteer firemen. Photos by Staff Photographer Carl J. Single

gh Waters

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of the depth of the and other amphib- were used to take their homes.

ld everybody that to vacate their it was the chief's said Mrs. Frank e Chief Thomas F. Hanlon, afraid of fire from wet electrical wiring and explosions from gas pilot lights, stood by as the people left their homes.

Mrs. Weaver returned to her house at 219 Rich St. in the afternoon, when some of the water had subsided, but she said it didn't take much convincing to get her, her husband and 10-year-old son on the boat at about 11:30 a.m.

"It was up to the steps. They said that more was to come. We were going to get another storm and you just couldn't stay here," she added.

Hanlon said his men, aided by the volunteer fire fighters, evacuated just about everyone from their homes but many kept returning, especially children.

The children seemed to enjoy playing in the newly created swimming pools but Dr. William A. Harris, county health commissioner, said he was worried.

Harris said the water might contain raw sewage which backed up onto the street during the storm. There was also the additional danger of drowning, although there were no reported mishaps.

The commissioner also cautioned people who draw their water from springs or wells to boil it again because of the danger of sewage. He said this did not affect people receiving public water.

Most of the people evacuated from their homes simply went to visit friends, some hopeful to return late last night after the water level went down. More than 80 people were taken to an emergency shelter at Shea Junior High School where facilities had been set up for feeding and bedding them.

People who were forced from their homes outside the city were put up in hotels and

WOW!

4.07 Inches

Yesterday's storm deposited 4.07 inches of rain on Onondaga County, according to the National Weather Service. The record for rainfall in a 24-hour period is 4.79 inches which fell on June 3 and 4 in 1922.

The normal rainfall for the month of July is 3.08, which we have already surpassed. The record July rainfall was in 1970 with 6.49 inches.

Rainfall last month was 4.67 inches, 1.58 inches above normal.

(Concluded from Page 1)

motels, according to Rudy Duncan of the American Red Cross because the evacuations were too isolated to bring the people to the school.

In the Liverpool area, Bloody Brook overran its banks, flooding the shallow field occupied by the Lakeshore Drive-In. The projection booth was nearly four feet deep in water.

Sections along Sunflower Drive were also under water.

Old Liverpool Road, Electronics Parkway and Seventh North Street also were under water.

Along Oneida Lake, Mud Mill and Lake Shore Roads were impassable because of flooding.

Joseph Berndt, deputy county public works commissioner, said most of the problems were in the western and southern sections of the county, with many roads closed.

Cedarvale and Velasko roads had to be closed off, and county crews were also working on Kasson, Tanner, Gates and Jamesville-Apulia roads, Berndt said.

In the Pompey area, Berndt said his crews hope to begin repairs today to damaged sections of Sweet, Henneberry, Broadfield and Number 5 roads.

Rain turns street into a river

By RICHARD CASE

There was a lot of irony and a lot of water on Riverdale Drive off Seneca Turnpike this morning.

Riverdale was a muddy, roiling river. Water poured down the turnpike and took a right into the drive of the garden apartments. Across the street it took a left into "Briar Patch," the home of Mr. and Mrs. Charles Demperio.

"The firemen said it would be okay to stay here," Mrs. Demperio yelled at me from the side. Water licked at her step.

Several Camillus children appeared to be having a good time this morning as they took a [illegible] freshing swim not in a neighborhood pool, but in the water which flooded Kasson Road near Camillus Plaza.

"We took the kids to a neighbor's but we decided to stay. There's three to four feet of water in the cellar. It's never been like this before."

That's what everyone we met said. Hopper Creek has cascaded down the hill from Community General Hospital before. But never like this.

A neighbor, Gary Conley from Smith Rd., stood in the middle of the road turned to river and looked at Demperio's, where water and debris raced down the driveway into the back yard. "It hit that foundation like a torpedo," he said. "Lucky it has a good foundation."

He motioned with a very fragile-looking garden rake — a toothpick against a forest. He and another neighbor, Jim Foley, were trying to unplug the catch basins along the 400 block of Seneca West but it was useless. Too much water.

"The city and county ought to get together on those storm basins," Conley told us. "When something like this starts, they ought to go up there and clean them out right away."

The rain stopped and started. Now and again, a slice of sunshine against the backdrop of lightning cracking over the Pompey Hills to the south.

People came sloshing down the turnpike with wet sneakers and wet feet. People in yellow parkas and damp tee shirts.

I saw kids [illegible] waves through the water, then slipping and tipping over. They got up and [illegible] through the debris for [illegible]. A barefoot mother walked through the flood with her girl [illegible] plastic umbrella.

Across from "Briar Patch," at [illegible] West Seneca, a retired couple, Sherman Sny[illegible] and his wife, looked from their porch at the [illegible] of what had been a front yard. Every once in a while they dropped back into the house to check the basement water level. It crept slowly up the stairway toward the first floor.

Wendell Conley struggled around the corner. He'd just rescued a pet chicken and rabbit from the backyard, which his father recently reseeded. He wore one wet slipper. The other one floated away.

"I'd say six or eight houses are taking water," his father said. "Some worse than others. The Churchills over there. They were residing the house. Now all the stuff is in the back yard."

Don Demperio finally made it to the sidewalk, which was a damp imitation of itself. It didn't seem to bother him that his shoes and pants were soaked.

"It's the worst it's ever been," he said. "It will be a long time before we dig out. We've been here two years and we've had trouble before with the parking lot (shopping center) next door too. Water runs off into our yard."

His yard couldn't be seen this morning. It was under water.

A Postal Service carrier drove up to water at [illegible] police lines and got out. He was dressed in [illegible] [illegible]. "Could he make it up the hill in his jeep?" he asked the policeman. "Today is Social Security check day. Those things mean a lot to people."

"Try it," drive [illegible]. He was told. So he plunged in, making brown ripples and got back to Smith Road.

A DPW [illegible].

Riverdale and Seneca [illegible] [illegible] [illegible] passed. Along the drive the water had [illegible] [illegible].

And across Seneca, a [illegible] [illegible] on the bottom of a long [illegible].

The scene began to take on [illegible]. Up the [illegible] with [illegible] tried to push back the water. They [illegible] but backing up. Close to others drove their cars through the water to go to work. Shoppers pushed carts of food out of the [illegible] as if nothing had happened.

Don Demperio was thinking about [illegible] back to [illegible]. His car stalled [illegible] on his way to work just before seven. Before he could [illegible] a big drop of water hit his nose.

"We don't need any more rain," he said very emphatically.

Mrs. Donald Demperio and dog "Duke" check high water lapping at their home at 440 West Seneca Turnpike this morning.

Storm termed worse than 1972 hurricane

By BILL CROZIER

Sheriff's men and city fire and police today were trying to win back ground lost to an overnight storm that officials say was worse than Hurricane Agnes in 1972.

A city police spokesman said amphibious vehicles were being used to evacuate elderly residents near Harbor and Onondaga creeks, where flooding waters [illegible] several residential blocks.

Police also were using the vehicles to turn off gas and electrical supplies [illegible] the homes to prevent explosions, officials said.

In city Fire Control headquarters in the Public Safety Building, dispatchers John Widowski and Bill Carroll remained at their posts, mean[illegible] overseeing the dispatching operation, explained firemen were being sent only to homes where water had filled cellars to a level that would cause hot water heater pilot lights to extinguish or reach electrical fuse box.

"Leaking gas touched by electrical fire would be disastrous," the chief continued.

[illegible] after [illegible] a.m. [illegible] this morning, fire [illegible] dispatched more than [illegible] flood-related calls and had an equally long list of persons awaiting equipment for flooded homes.

Chief Hanlon said the most badly flooded areas included Lodell and Holden avenues and Hartson Street, all in the city's west side, and the perennial flood-plagued Meadowbrook Drive area on the city's [illegible] problems with both but then it was a case of getting over several days. This came down in a three to four hour span," he said.

"It's darn lucky that many of the diseased trees in the city have been cut down or it would have been chaos," the chief added.

In the dimly lighted sheriff's dispatching headquarters, phone calls flashed on consoles as officials there attempted to catch up with calls on downed trees and wires, accidents, abandoned cars and road conditions.

Officials said at least three times the normal amount of incident reports have been handled since 3 a.m. today, while dozens of inquiries on the best routes in and out of the county have been coming [illegible] weary communications officers worked a double shift, assisting in dispatching calls to flooded areas.

Sheriff's Capt. [illegible] Blanchard, in charge of the road patrol, said the storm didn't cause as much damage as Agnes but agreed the fast accumulation of water caused more emergency situations than the 1972 storm.

"We just weren't expecting [illegible]," one deputy commented. "It really knocked us off our chairs."

Flood waters caused heavy damage and a variety of special problems for area businesses.

Franklin Furniture officials met double trouble today as they rowed through four feet of water to their warehouse at General Motors Circle.

July 3, 1974

Several Camillus children appeared to be having a good time this morning as they took a "freshing swim" not in a neighborhood pool, but in the water which flooded Kasson Road near Camillus Plaza.

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Police also were using the vehicles to turn off gas and electrical supplies into the homes to prevent explosions, officials said.

In city Fire Control headquarters in the Public Safety Building, dispatchers John Widowski and Bill Carroll remained at their posts more than 12 hours, assisting morning shift men with a deluge of phone calls from residents with flooded basements.

Fire Chief Thomas Hanlon, overseeing the dispatching operation, explained firemen were being sent only to homes where water had filled cellars to a level that would cause hot water heater pilot lights to extinguish or reach electrical fuse boxes.

Leaking gas touched by electrical arc would be disastrous, the chief continued.

Since just after 3:30 a.m. until late this morning, fire officials dispatched more than 70 flood-related calls and had an equally long list of persons awaiting equipment for flooded homes.

Chief Hanlon said the most badly flooded areas included Lydell and Holden avenues and Hartson Street, all in the city's west side, and the perennial flood-plagued Meadowbrook Drive area on the city's east side.

This morning's deluge was more severe than Agnes two years ago, Hanlon feels.

"Of course, we had a lot of problems with both but then it was a case of getting over several days. This came down in a three to four hour span," he said.

"It's darn lucky that many of the diseased trees in the city have been cut down, or it would have been chaos," the chief added.

In the dimly-lighted sheriff's dispatching headquarters, phone calls flashed on consoles as officials there attempted to catch up with calls on downed trees and wires, accidents, abandoned cars and road conditions.

Officials said at least three times the normal amount of incident reports have been handled since 3 a.m. today, while dozens of inquiries on the best routes in and out of the county have been coming in.

About 15 sheriff's men stayed past the end of their shifts until after 10 a.m. when rain began to let up. One weary communications officer worked a double shift, assisting in dispatching calls to troubled areas.

Sheriff's Capt. Crysler Blanchard, in charge of the road patrol, said the storm didn't cause as much damage as Agnes but agreed the fast accumulation of water caused more emergency situations than the 1972 storm.

"We just weren't expecting it," one deputy commented. "It really knocked us off our chairs."

Flood waters caused heavy damage and a variety of special problems for area businesses.

Franklin Furniture officials met double trouble today as they rowed through four feet of water to their warehouse at General Motors Circle. They found $100,000 worth of damage, and were forced to move their big Fourth of July sale from the warehouse to their North Syracuse store.

clean them out right away."

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Across from Brian Patch at 442 West Seneca a retired couple, Sherman Sapley and his wife, looked from their porch at the bubbling misery of what had been a front yard. Every once in a while they dropped back into the house to check the basement water level. It crept slowly up the stairway toward the first floor.

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His yard couldn't be seen this morning. It was under water.

A Postal Service carrier drove up to water and police lines and got out. He was dressed in regu

Don Demperio was thinking about walking back to Elmwood. His car stalled — a wet engine — on his way to work just before seven. Before he could decide, a big drop of watch hit his nose.

We don't need any more rain," he said very emphatically.

Mrs. Donald Demperio and dog "Duke" check high water lapping at their home at 440 West Seneca turnpike this morning.

July 3, 1974

FIGURE 10 - Water six inches deep flowing down South Street in Camillus near stream mile 7.3 during a 1950's flood resulting from rain and snowmelt.

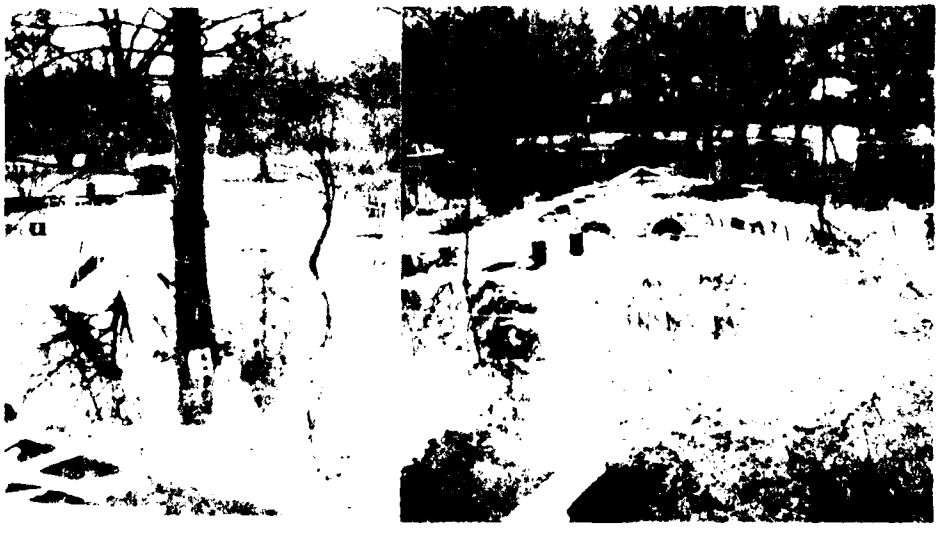


FIGURE 11 - Receding flood waters of Ninemile Creek (stream mile 7.3) have left a thick layer of silt in the backyard of a residence on South Street in Camillus in the aftermath of a spring flood on March 29, 1961.

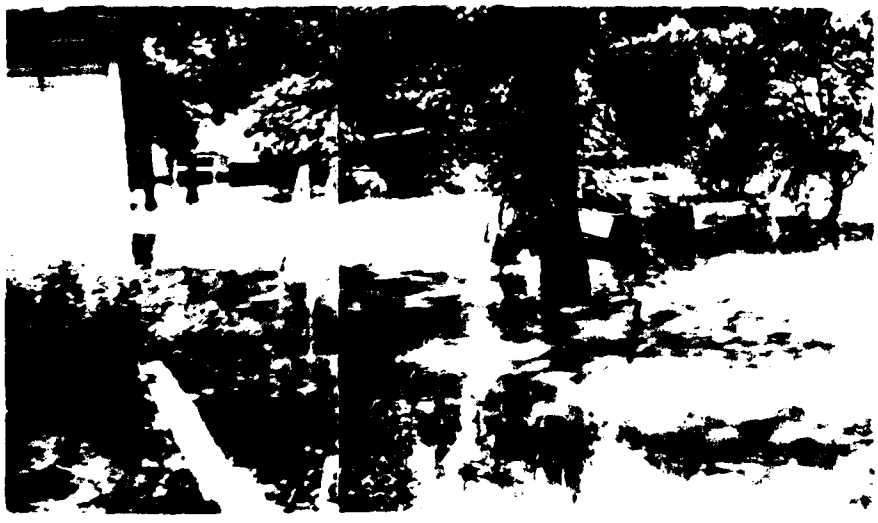


FIGURE 12 - A motorboat floats in the backyard of a South Street, Camillus residence (stream mile 7.3) shortly after the rains causing this June, 1972 flood have ceased.

FIGURE 13 - Looking upstream along Ninemile Creek (stream mile 7.1) as flood waters threaten the Camillus Cutlery Company during the inundation by hurricane Agnes in June, 1972.

FIGURE 14 - Flood waters of Ninemile Creek overflow their banks as they surge through the County Park in Marcellus (stream mile 13.35) during the July, 1974 flood.

FIGURE 15 - Muddy flood waters pour over Marcellus Falls Dam (stream mile 11.25) carrying trees and other floatable debris downstream during the July, 1974 flood.

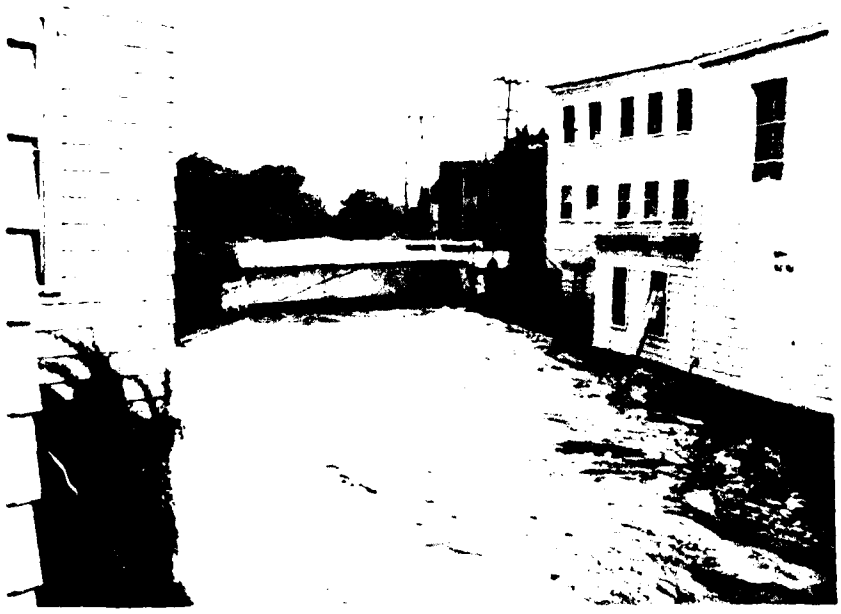


FIGURE 16 - Receding waters of the July, 1974 flood barely clear the bottom of the Genesee Street bridge in Camillus (stream mile 7.2). Building at right is part of the Camillus Cutlery Company.

FIGURE 17 - Debris carrying waters of the July, 1974 flood pour over dam 1 (stream mile 3.83) located just upstream of Warners Road bridge at Amboy in Camillus.

FUTURE FLOODS

Floods of the same or larger magnitude as those that have occurred in the past are likely to occur sometime in the future. Larger floods have been experienced in the past on streams with similar geographical and physiographical characteristics as those found in the study area. Similar combinations of rainfall and runoff which caused these floods could occur within the study area. Therefore, to assess the flooding potential of the study area, it was necessary to consider storms and floods that have occurred in regions of like topography, watershed cover and physical characteristics. Discussion of the future floods in this report is limited to those that have been designated as the Intermediate Regional Flood and the Standard Project Flood. The Standard Project Flood represents a reasonable upper limit of expected flooding in the study area. The Intermediate Regional Flood may reasonably be expected to occur more frequently although it will not be as severe as the infrequent Standard Project Flood.

INTERMEDIATE REGIONAL FLOOD (IRF)

The IRF is defined as one that could occur once in 100 years on the average, although it could occur in any year. The peak flow of this flood was developed from statistical analyses of the gaging station records of stream flows. However, limitations in these records required analyses on a regional rather than a watershed basis. Peak flows thus developed for the IRF at selected locations in the study area are shown in Table 5.

STANDARD PROJECT FLOOD (SPF)

The SPF is defined as the flood that can be expected to occur from the most severe combination of meteorological and hydrological conditions that is considered reasonably characteristic

TABLE 5

PEAK FLOWS FOR INTERMEDIATE REGIONAL
AND STANDARD PROJECT FLOODS

Location	Stream Mile	Drainage Area sq. mi.	Intermediate Regional Flood Discharge cfs	Standard Project Flood Discharge cfs
At mouth (Lakeland)	0.0	115.0	10,000	25,600
Upstream of Geddes Brook	1.2	103.0	8,800	23,500
Upstream of Unnamed Tributary	2.5	101.0	8,600	23,300
Upstream of Unnamed Tributary	2.7	97.0	8,200	22,500
Upstream of Unnamed Tributary	4.3	95.0	8,000	22,300
Upstream of Abandoned Canal	6.7	86.0	6,900	20,300
USGS Gage at Camillus	7.2	84.3	6,600	20,000
Upstream of Swamp	10.0	77.0	5,800	18,300
Upstream of Unnamed Tributary	10.5	72.0	5,000	16,800
At Marcellus	12.0	69.0	4,600	16,000
At Platt Road	13.4	65.0	4,000	14,800

of the geographical area in which the study area is located, excluding extremely rare combinations. The Corps of Engineers, in cooperation with the NOAA Weather Service, has made comprehensive studies and investigations of records from past storms and floods. From these investigations, generalized procedures for estimating the flood potential of streams have been developed. Peak discharges for the Standard Project Flood at selected locations in the study area are shown in Table 5. A discharge hydrograph for the Standard Project Flood at the mouth of Ninemile Creek near Lakeland is shown on Plate 12. The relative water surface elevations for the Intermediate Regional Flood and the Standard Project Flood are shown with the stream profile on Plates 7 and 8.

Recorded discharges for past floods and high water periods at the Marietta, Camillus and Lakeland gaging stations are shown in Tables 2, 3 and 4, respectively. The September 26, 1975 flood produced the highest stage level of record, though not the highest discharge rate of record at the Camillus gaging station located just downstream of the Genesee Street bridge. Table 6 shows a comparison between the high water marks of the September 26, 1975, June 23, 1972 and the July 3, 1974 floods, and the projected high water elevations resulting from the Intermediate Regional, and the Standard Project Floods at the Camillus gaging station.

FREQUENCY

A frequency curve of peak flows was constructed on the basis of available information and computed flows of floods up to the magnitude of the Standard Project Flood. The frequency curve thus derived, which is available on request, reflects the judgment of engineers who have studied the area and are familiar with the region; however, it must be regarded as approximate and should be used with caution in connection with any planning of flood plain use. Floods larger than the Standard Project Flood are possible

TABLE 6

FLOOD ELEVATIONS

(Camillus Gaging Station at Stream Mile 7.18)

Flood	Elevation(a)
Standard Project	421.0
Intermediate Regional	413.6
September 26, 1975	409.4
June 23, 1972	407.3
July 3, 1974	406.5

(a) Feet, mean sea level datum

but the combinations of factors necessary to produce such large flows would be extremely rare.

HAZARDS OF LARGE FLOODS

The extent of damage caused by any flood depends on the topography of the area flooded, depth and duration of flooding, velocity of flow, rate of rise, and developments in the flood plain. An Intermediate Regional or Standard Project Flood on Ninemile Creek would result in inundation of residential, commercial, and industrial sections in the Towns of Marcellus, Camillus, and Geddes. Deep flood water flowing at high velocity and carrying floating debris would create conditions hazardous to persons and vehicles attempting to cross flooded areas. In general, flood waters 3 or more feet deep and flowing at a velocity of 3 or more feet per second could easily sweep an adult person off his feet. Rapidly rising and swiftly flowing flood water may trap persons in homes that are ultimately destroyed, or in vehicles that are ultimately submerged or floated. Water lines can be ruptured by deposits of debris and the force of flood waters, thus creating the possibility

of contaminated domestic water supplies. Damaged sanitary sewer lines and flooded sanitary landfills, sewage treatment plants, and tailings ponds could pollute the flood waters and create health hazards. Isolation of areas by flood water could create hazards in terms of medical, fire, or law enforcement emergencies.

Flooded Areas and Flood Damages - Plate 2 shows the roads and communities in the vicinity of Ninemile Creek and is also an index map to Plates 3 through 6. Areas that would be flooded by the Intermediate Regional and Standard Project Floods are shown in detail on Plates 3 through 6. The actual limits of these overflow areas may vary somewhat from those shown on the maps because the 10-foot contour interval and scale of the maps do not permit precise plotting of the flooded area boundaries. Also areas outside the flood plain may be subjected to flooding from local runoff. The study shows that floodflows from Ninemile Creek could cover a significant portion of the lower Ninemile Creek Valley. The areas that would be flooded by the Intermediate Regional and Standard Project Floods include commercial, industrial, and residential sections and the associated streets, roads, and private and public utilities along Ninemile Creek. Considerable damage to these facilities could occur during an Intermediate Regional Flood. However, because of the wider extent, greater depths of flooding, higher velocity flow and longer duration of flooding during a Standard Project Flood, damage would be even more severe than during an Intermediate Regional Flood. Plates 7 and 8 show water surface profiles of the Intermediate Regional and Standard Project Floods. Depth of flow in the channel can be estimated from these illustrations. Typical cross sections of the flood plain at selected locations together with the water surface elevation and lateral extent of the Intermediate Regional and Standard Project Floods are shown on Plates 9, 10 and 11.

Obstructions - During floods, debris collecting on bridges and culverts could decrease their carrying capacity and cause greater water depths (backwater effect) upstream of these structures. Since the occurrence and amount of debris are indeterminate factors, only the physical characteristics of the structures were considered in preparing profiles of the Intermediate Regional and Standard Project Floods. Similarly, the maps of flooded areas show the backwater effect of obstructive bridges and culverts but do not reflect increased water surface elevation that could be caused by debris collecting against the structures or by deposition of silt in the stream channel under structures. As previously indicated, most of the dams within the study area have no significant flood control capacity and will not seriously alter flow characteristics of flood waters for such high floods as the Intermediate Regional Flood and Standard Project Flood. Of the 28 bridges and culverts in the study area, most are obstructive to the Intermediate Regional Flood and even more are obstructive to the Standard Project Flood. In some cases bridges may be high enough not to be inundated by floodflows; however, the approaches to these bridges may be at lower elevations and rendered impassable as a result of flooding. Table 7 lists water surface elevations at bridges and culverts in the study area.

Velocities of Flow - Water velocities during floods depend largely on the size and shape of the cross sections, conditions of the stream and the bed slope, all of which vary on different streams and at different locations on the same stream. During an Intermediate Regional Flood, velocities of main channel flow in the upper reaches of the study area would be 5 to 14 feet per second. Water flowing at this rate is capable of causing severe erosion to streambanks and fill around bridge abutments

TABLE 7

ELEVATION DATA

Bridges Across Ninemile Creek
Within 13.4 Mile Study Length

Identification	Mileage Above Mouth	Underclearance Elevation(a)	Water Surface Elevation(a) Intermediate Regional Flood(b)	Standard Project Flood(b)
Route 690 Westbound	0.56	382.0	374.4	381.2
Route 690 Eastbound	0.58	382.0	374.5	381.5
Delaware Lackawanna and Western Railroad	0.68	372.00	376.7	385.0
Route 48	0.70	373.00	377.7	385.9
Water Main	0.72	372.00	378.4	386.6
Ramp Crossing	0.86	377.00	379.9	387.5
Tailings Pond Access	1.32	372.20	380.5	388.4
Pipeline Crossing	1.41	375.70	380.7	388.7
Access Road to Landfill	2.03	374.50	382.4	389.7
Penn Central Transportation Company	2.52	379.20	385.0	390.7
Access Road to Landfill	2.84	376.10	385.4	391.5
Warners Road	3.82	398.70	394.7	405.5
Park Foot Bridge at Erie Canal Junction	4.79	411.30	406.8	415.8
Genesee Street (Rt. 5)	7.20	408.20	413.6	421.0
Martisco Road Bridge	10.08	435.00	435.2	443.1
Penn Central Transportation Company	10.09	444.20	445.1	459.5
Route 174	10.34	450.50	456.5	460.8
Route 174	10.48	461.80	468.3	473.9
Route 174	10.90	492.80	496.4	500.8
Route 174	11.13	518.60	520.6	528.0
Route 174	11.23	543.00	532.2	552.1
Private Drive	11.68	591.28	594.5	601.0
Marcellus and Otisco Railroad	11.88	609.70	607.6	618.8
State Route 174	12.08	619.00	623.0	627.9
Marcellus and Otisco Railroad	12.48	634.90	636.6	641.8
Seneca Turnpike (State Route 175)	12.84	659.00	660.3	666.5
Foot Bridge in Park	13.25	664.70	667.1	673.5
Platt Road	13.39	667.40	671.8	676.5

(a)Elevation in feet (U.S.C. & G.S. 1929 adj.) mean sea level datum.
(b)Water surface elevations, refer to upstream side of respective bridge.

and of transporting large objects. In the lower reaches, the velocities would be somewhat lower averaging 2 to 9 feet per second. It is expected that velocity of flow during a Standard Project Flood would be slightly higher than during an Intermediate Regional Flood. Overbank flow in the study area would range up to 5 feet per second. Water flowing at 2 feet per second or less would deposit debris and silt.

Rates of Rise and Duration of Flooding - Rates of rise are dependent upon the shape of the basin, antecedent conditions, intensity of the storm, development within the basin and debris in the channel at the time of the storm. The duration of a flood is dependent upon the duration of the storm, storage capacity of the overbank, prolonged runoff from snow melt and high stages caused by ice jams, etc.

An Intermediate Regional Flood has not occurred in the Ninemile Creek during the period of record at the gaging stations. It is difficult to predict accurately the rates of rise and duration because many variations in rainfall distribution could produce the Intermediate Regional Flooding peak discharge with a variety of rates of rise. An estimate of the rate of rise and the duration of flooding due to the IRF and SPF is shown in Table 8.

TABLE 8
ESTIMATED RATE OF RISE AND DURATION
Ninemile Creek at Lakeland Gaging Station[a]

Flood	Maximum Rate of Rise ft/hr	Height of Rise[b] ft	Time of Rise hrs	Duration of Critical Stage[b] hrs
Intermediate Regional Flood	1.17	5.7	10.2	25.2
Standard Project Flood	1.5	14.0	15.0	45.0

(a) Gage datum is 360.67 feet above mean sea level.
(b) Critical stage (overbank) estimated at 371 feet.

Effects of Future Development - Building in the flood plain places obstructions in the path of flood waters which can produce backwater effects. This can cause flood waters to affect larger areas than in the past and also cause more frequent flooding. Proper land use planning by local authorities can help eliminate the prospect of more severe and damaging flooding in the future by preserving flood plain acreage as parks, greenbelts, recreation areas, and open spaces.

Future development within the watershed will also have some effect on the amount of runoff water into the creek. Figure 2 shows by category and percentage the land use distribution within the Ninemile Creek watershed as of 1971. As the area within the 115 square mile watershed of Ninemile Creek becomes more urbanized, the percentage of land surface area which readily absorbs precipitation will decrease, adding to runoff. Also as development continues, more storm sewers will be installed to handle the runoff water. Thus, if the area continues to show growth patterns similar to those in recent years, a corresponding increase in runoff water can be expected as well as an increase in the speed with which the runoff water reaches the creek. Future periods of extremely heavy precipitation and large amounts of runoff may cause flood waters to rise more rapidly and to reach higher peak stage levels than previously observed.

Photographs, Future Flood Heights - The anticipated water levels of the Intermediate Regional and Standard Project Floods at various locations along Ninemile Creek are illustrated on the photographs on the following pages.

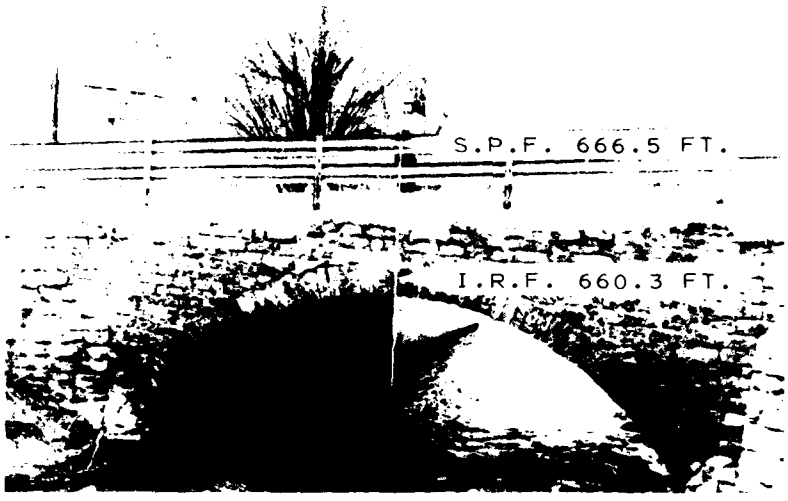


FIGURE 18 - Future flood heights at upstream side of Seneca Turnpike bridge (stream mile 12.84) in Marcellus. Photo taken April, 1975.

FIGURE 19 - Future flood heights at upstream side of Route 174 bridge (stream mile 12.08) in Marcellus. Photo taken April, 1975.

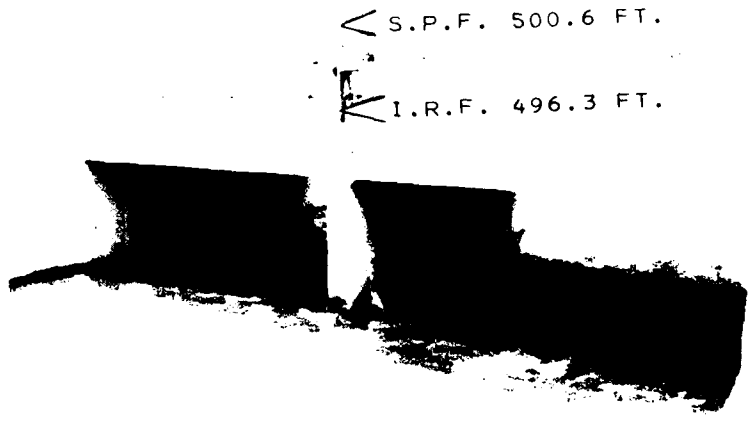


FIGURE 20 - Future flood heights at upstream side of Route 174 bridge (stream mile 10.90) near Marcellus Falls. Photo taken April, 1975.

FIGURE 21 - Future flood heights at downstream side of Penn Central Transportation Co. overpass near the Martisco Road bridge at Martisco (stream mile 10.09) in Town of Camillus. Photo taken April, 1975.

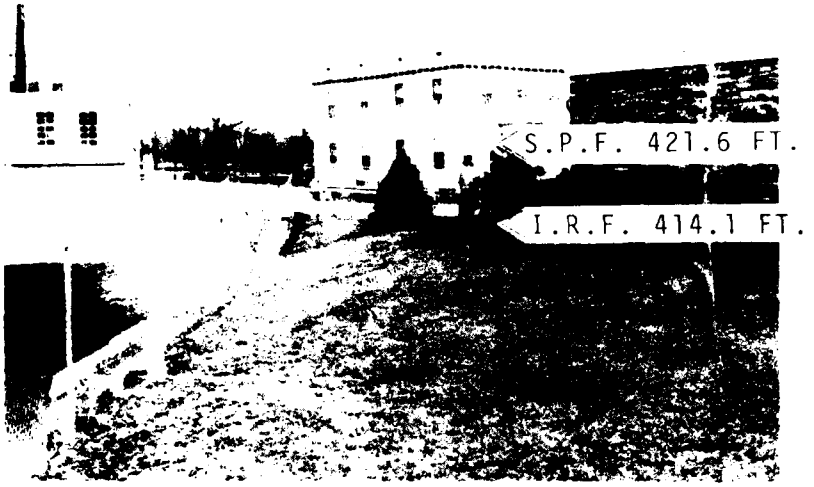


FIGURE 22 - Future flood heights on upstream side of Genesee Street (Route 5) in Camillus. Brick building in right foreground is Camillus Animal Clinic, 31 East Genesee Street. Photo taken April, 1975.

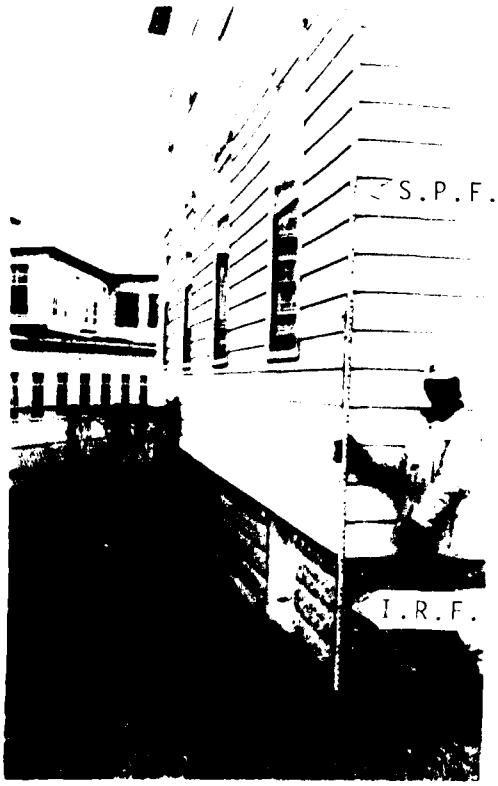


FIGURE 23 - Future flood heights on downstream side of Genesee Street at corner of building adjacent to Nine-mile Creek (stream mile 7.20) in Camillus. Photo taken April, 1975.

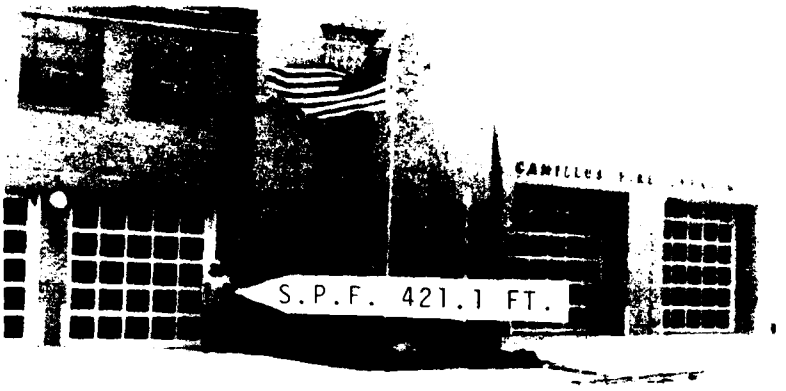


FIGURE 24 - Future flood height in front of Camillus Fire Department (stream mile 7.20) on West Genesee Street (Route 5) in Camillus. Photo taken April, 1975.

FIGURE 25 - Future flood heights in back of Robert D. Spence Plumbing Supplies building located at corner of Warners Road and Airport Road in Camillus. Warners Road bridge (stream mile 3.82) is 50 feet upstream in the background. Photo taken April, 1975.

FIGURE 26 - Future flood heights at Penn Central Transportation Co. bridge over Ninemile Creek (stream mile 2.52) near intersection of Van Buren, Lakeland and Airport Roads in Camillus. Photo taken April, 1975.

FIGURE 27 - Future flood heights at State Route 48 bridge (stream mile 0.70) in Geddes. Photo taken April, 1975.

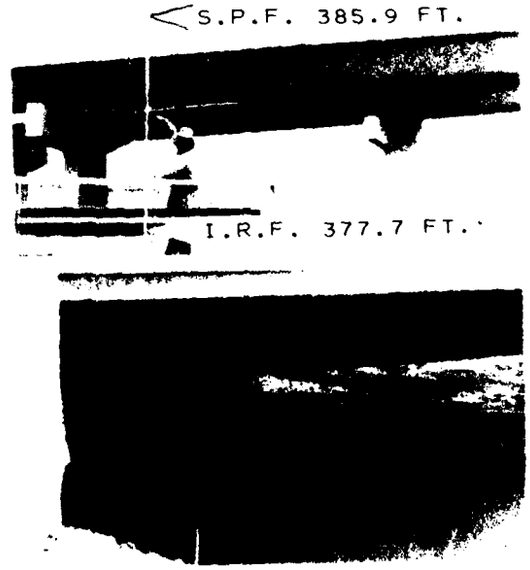


FIGURE 28 - Future flood heights at the intersection of Hiawatha Avenue, Iroquois Street and Cayuga Street on the New York State Fairgrounds in Geddes. Based on flood heights at stream mile 0.70. Photos taken April, 1975.

GLOSSARY

Backwater. The resulting high water surface in a given stream due to a downstream obstruction or high stages in an intersecting stream.

Flood. An overflow of lands not normally covered by water and that are used or usable by man. Floods have two essential characteristics: The inundation of land is temporary; and the land is adjacent to and inundated by overflow from a river, stream, ocean, lake, or other body of standing water.

Normally a "flood" is considered as any temporary rise in streamflow or stage, but not the ponding of surface water, that results in significant adverse effects in the vicinity. Adverse effects may include damages from overflow of land areas, temporary backwater effects in sewers and local drainage channels, creation of unsanitary conditions or other unfavorable situations by deposition of materials in stream channels during flood recessions, rise of ground water coincident with increased streamflow, and other problems.

Flood Crest. The maximum stage or elevation reached by the waters of a flood at a given location.

Flood Plain. The areas adjoining a river, stream, watercourse, ocean, lake, or other body of standing water that have been or may be covered by floodwater.

Flood Profile. A graph showing the relationship of water surface elevation to location, the latter generally expressed as distance above mouth for a stream of water flowing in an open channel. It is generally drawn to show surface elevation for the crest of a specific flood, but may be prepared for conditions at a given time or stage.

Flood Stage. The stage or elevation at which overflow of the natural banks of a stream or body of water begins in the reach or area in which the elevation is measured.

Hurricane. An intense cyclonic windstorm of tropical origin in which winds tend to spiral inward in a counterclockwise direction toward a core of low pressure, with maximum surface wind velocities that equal or exceed 75 miles per hour (65 knots) for several minutes or longer at some points. Tropical storm is the term applied if maximum winds are less than 75 miles per hour.

Hydrograph. A graph showing flow values against time at a given point, usually measured in cubic feet per second. The area under the curve indicates total volume of flow.

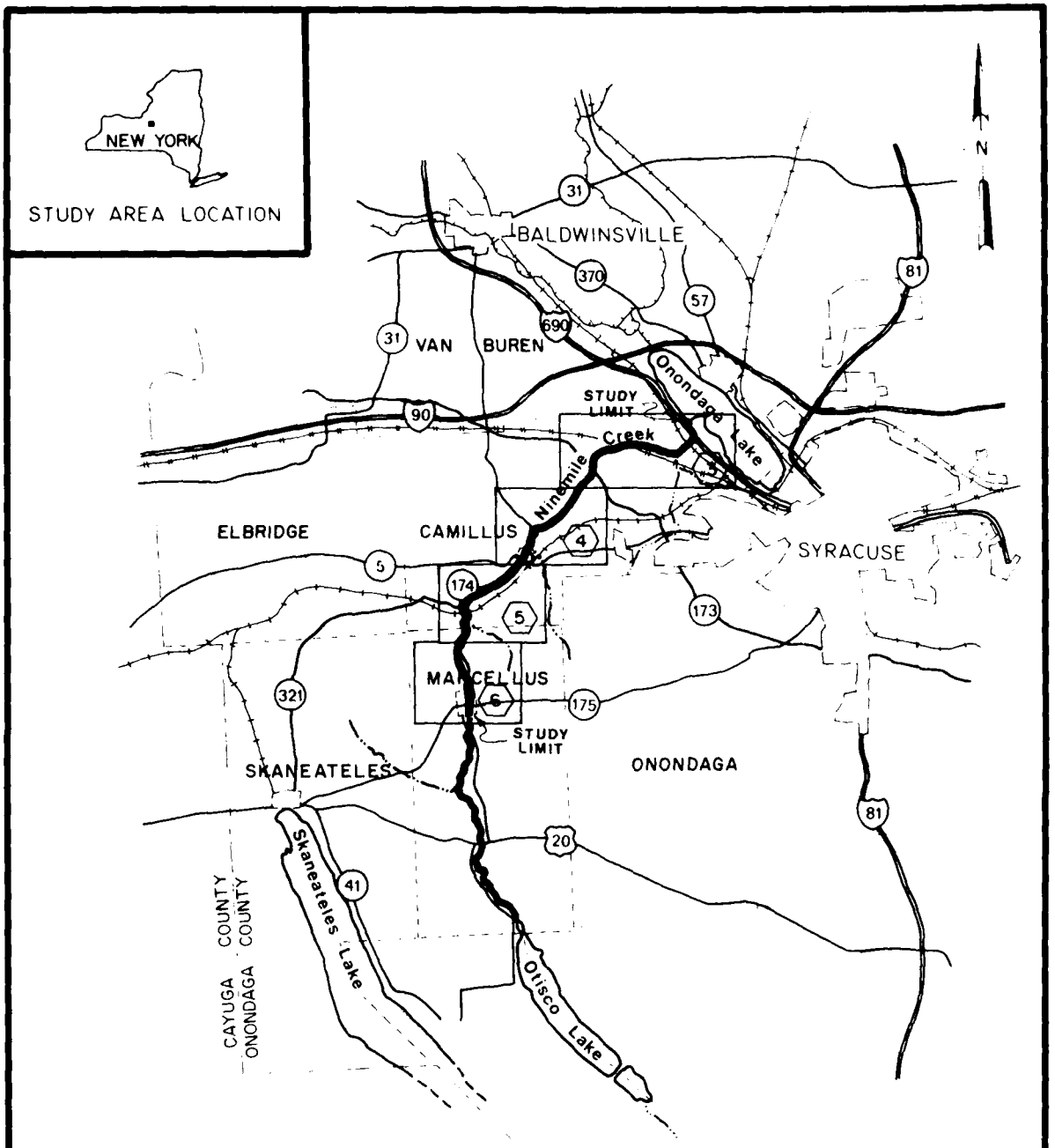
Intermediate Regional Flood. A flood having an average frequency of occurrence in the order of once in 100 years although the flood may occur in any year. It is based on statistical analyses of streamflow records available for the watershed and analyses of rainfall and runoff characteristics in the general region of the watershed.

Left Bank. The bank on the left side of a river, stream, or watercourse, looking downstream.

Right Bank. The bank on the right side of a river, stream, or watercourse, looking downstream.

Standard Project Flood. The flood that may be expected from the most severe combination of meteorological and hydrological conditions that are considered reasonably characteristic of the geographical area in which the drainage basin is located, excluding extremely rare combinations. Peak discharges for these floods are generally about 40-60 percent of the Probable Maximum Floods for the same basins. As used by the Corps of Engineers, Standard Project Floods are intended as practicable expressions of the degree of protection that should be sought in the design of flood control works, the failure of which might be disastrous.

Underclearance Elevation. The elevation at the top of the opening of a culvert, or other structure through which water may flow along a watercourse.



LEGEND

SCALE IN MILES

1 0 1 2 3 4 5

(3) PLATE NUMBER ILLUSTRATING FLOODED AREA

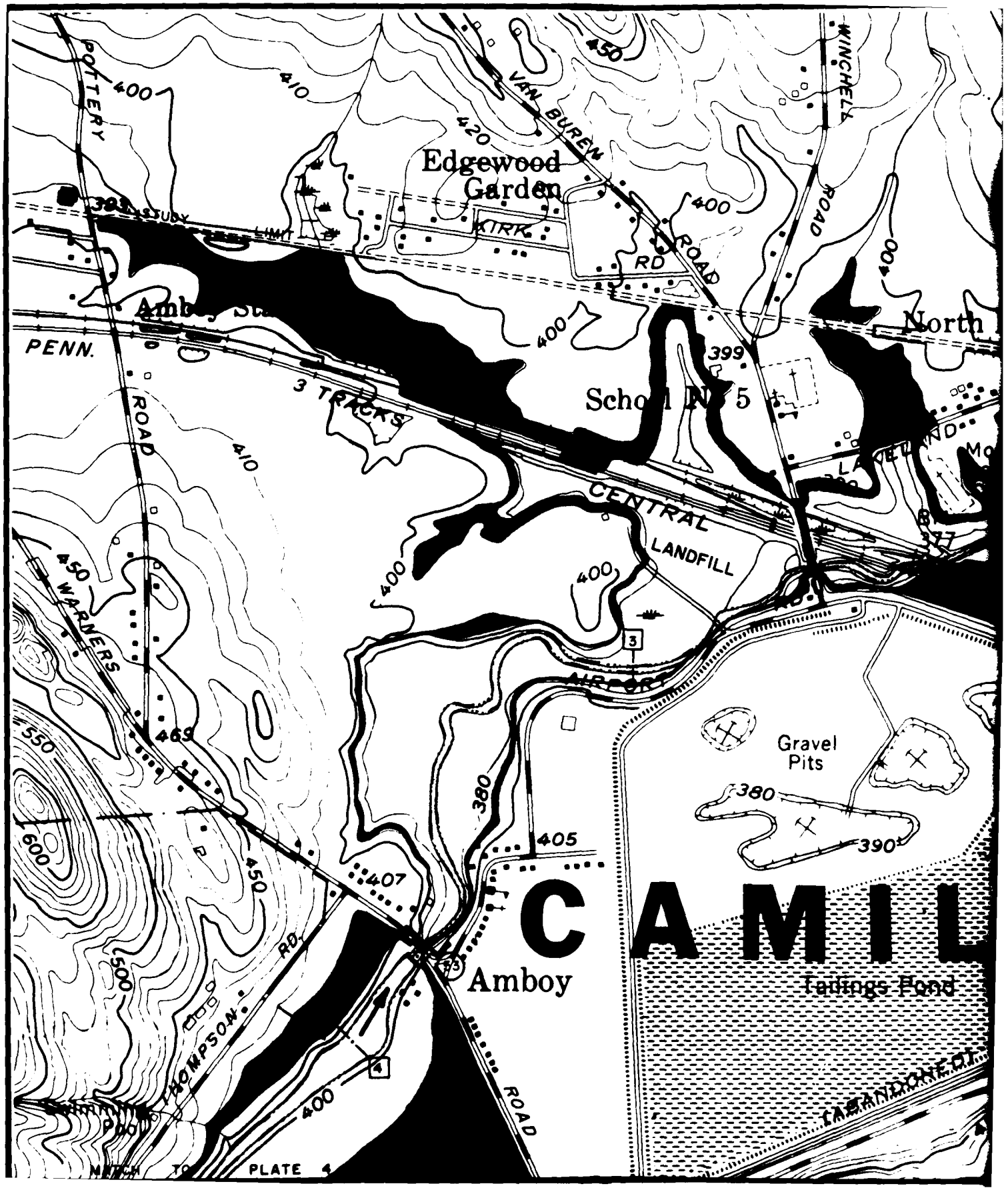
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

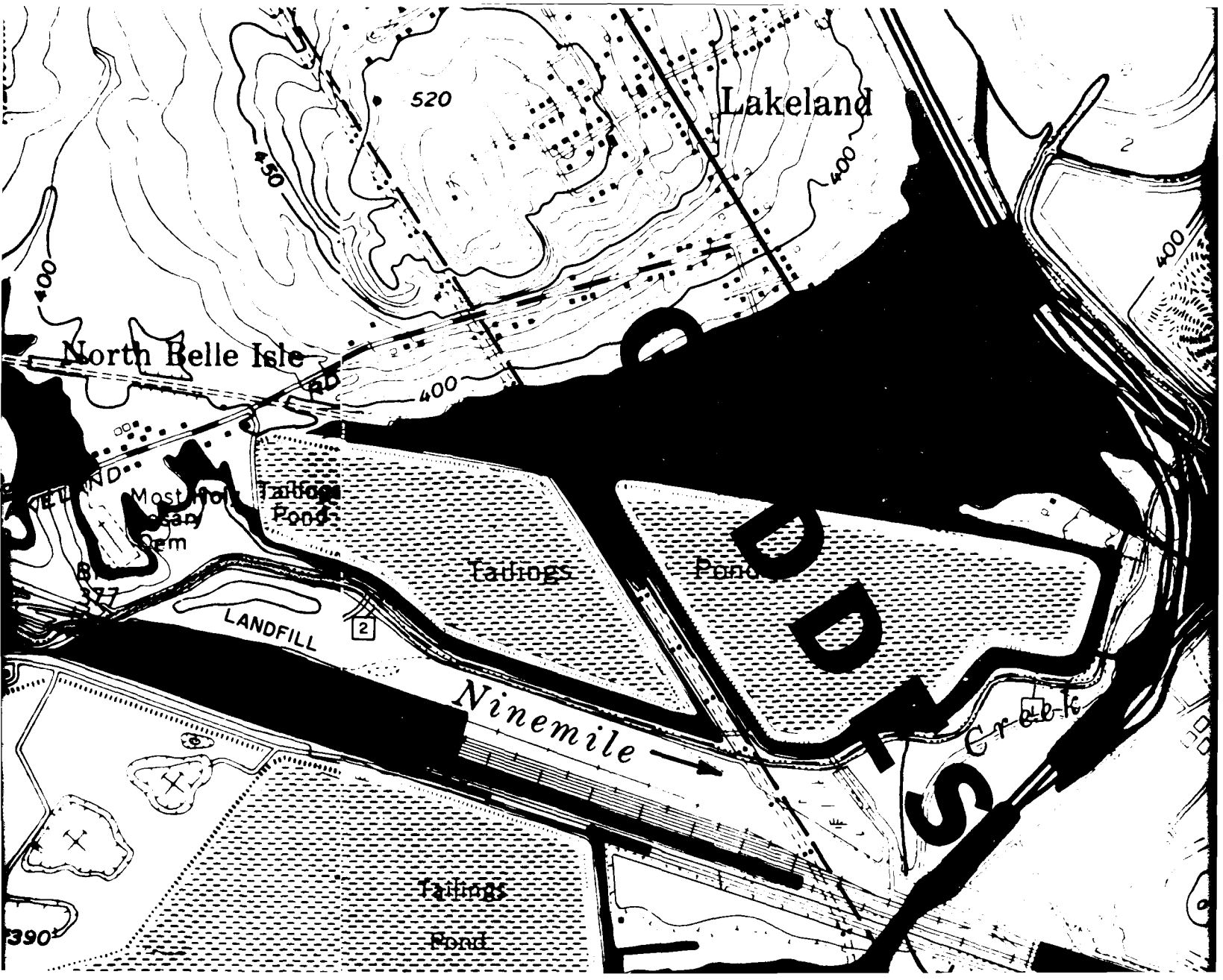
FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

INDEX MAP - FLOODED AREAS

OCTOBER 1976

PLATE 2


POTTERY
400
410
VAN BUREN
420
450
WINCHELL
Edgewood
Garden
KIRK
RD
ROAD
400
399
PENN.
3 TRACKS
ROAD
410
CENTRAL
LANDFILL
400
450
WARNERS
469
550
600
AIRPORT
Gravel
Pits
380
390
405
407
450
500
RD
THOMPSON
Amboy
Tailings Pond
ROAD
400
PLATE 4


520
Lakeland
450
400
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400
North Belle Isle
400
Tailings
Pond
Tailings
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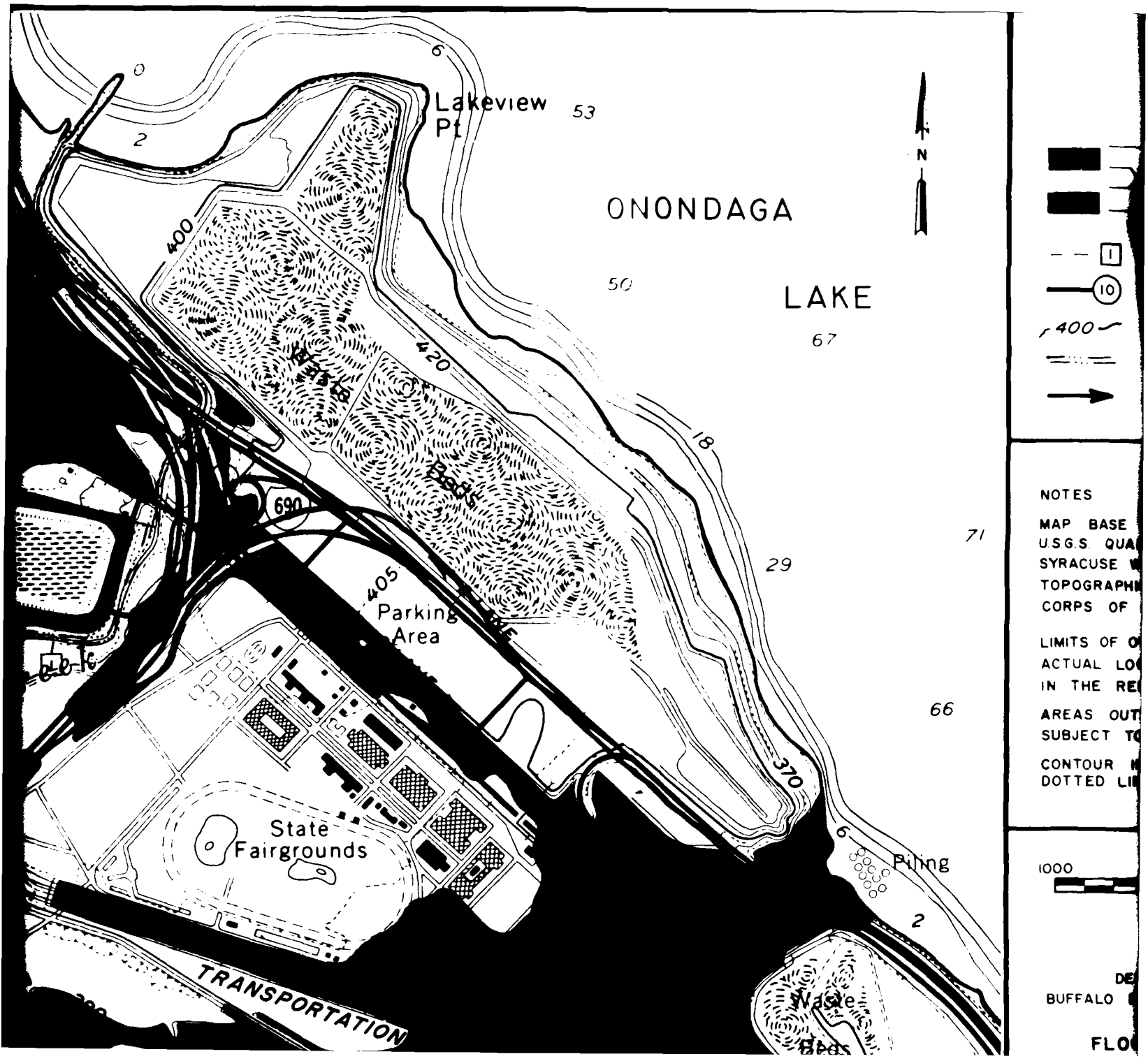
LANDFILL
2
Ninemile
Creek
Tailings
Pond
390


Lakeview Pt
ONONDAGA
LAKE
N
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420
690
405
Parking Area
State Fairgrounds
TRANSPORTATION
Piling
Waste Beds
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MAP BASE
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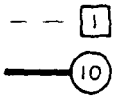
LEGEND



MILES ABOVE MOUTH

CROSS SECTION

GROUND ELEVATION IN FEET MSL

CHANNEL

FLOW ARROW

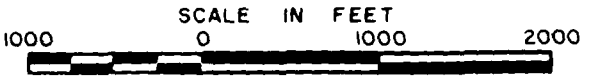
NOTES:

MAP BASE PREPARED FROM PORTION OF U.S.G.S. QUADRANGLES CAMILLUS, N.Y. 1955 AND SYRACUSE WEST, N.Y. 1958 (7.5 MIN. SERIES TOPOGRAPHIC). MINOR CHANGES MADE BY CORPS OF ENGINEERS.

LIMITS OF OVERFLOW SHOWN MAY VARY FROM ACTUAL LOCATION ON GROUND AS EXPLAINED IN THE REPORT.

AREAS OUTSIDE THE FLOOD PLAIN MAY BE SUBJECT TO FLOODING FROM LOCAL RUNOFF.

CONTOUR INTERVAL 10 FEET
DOTTED LINES REPRESENT 5 FEET



DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

FLOODED AREAS

OCTOBER 1976

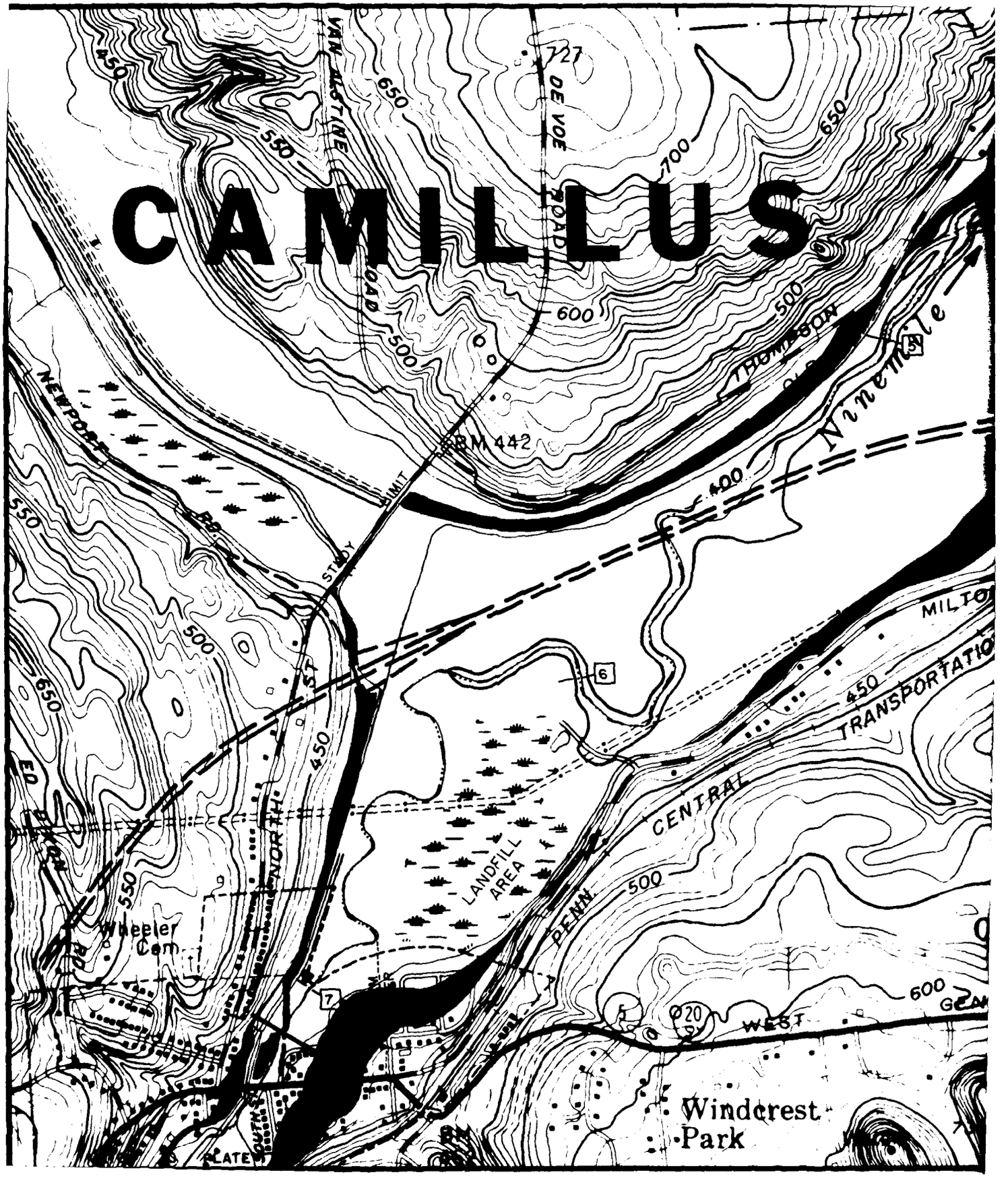
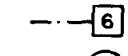
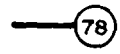

CAMILLUS
VAN ALSTYNE
OE VOE
ROAD
727
650
550
700
600
500
450
400
THOMPSON
Nine Mile
BM 442
LIMIT
STUDY
NEWPORT
RD.
ST
NORTH
MILTON
TRANSPORTATION
CENTRAL
PENN
LANDFILL
AREA
Wheeler
Cem.
WEST
Windcrest
Park
SOUTH
PLATE


PLATE 3
Creek
ERIE
Canal
5
BYPASS
(UNDER CONSTRUCTION)
BNERS
HINSDALE
RIDGE
173
BM 467
MILTON
TRANSPORTATION
COMPANY
ROWLEY
ROAD
AVE
STREET
RD
Westerlea
Res
Camillus
Park
Westview
Manor
Orchard
Village
GENESEE
650
600
610
590
560
550
500
480
474
450

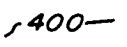
LEGEND



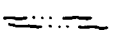
MILES ABOVE MOUTH



CROSS SECTION



GROUND ELEVATION IN FEET MSL


CHANNEL


FLOW ARROW

NOTES:

MAP BASE PREPARED FROM PORTION OF U.S.G.S. QUADRANGLE CAMILLUS, N.Y. 1955 (7.5 MIN. SERIES TOPOGRAPHIC). MINOR CHANGES MADE BY CORPS OF ENGINEERS.

LIMITS OF OVERFLOW SHOWN MAY VARY FROM ACTUAL LOCATION ON GROUND AS EXPLAINED IN THE REPORT.

AREAS OUTSIDE THE FLOOD PLAIN MAY BE SUBJECT TO FLOODING FROM LOCAL RUNOFF.

CONTOUR INTERVAL 10 FEET

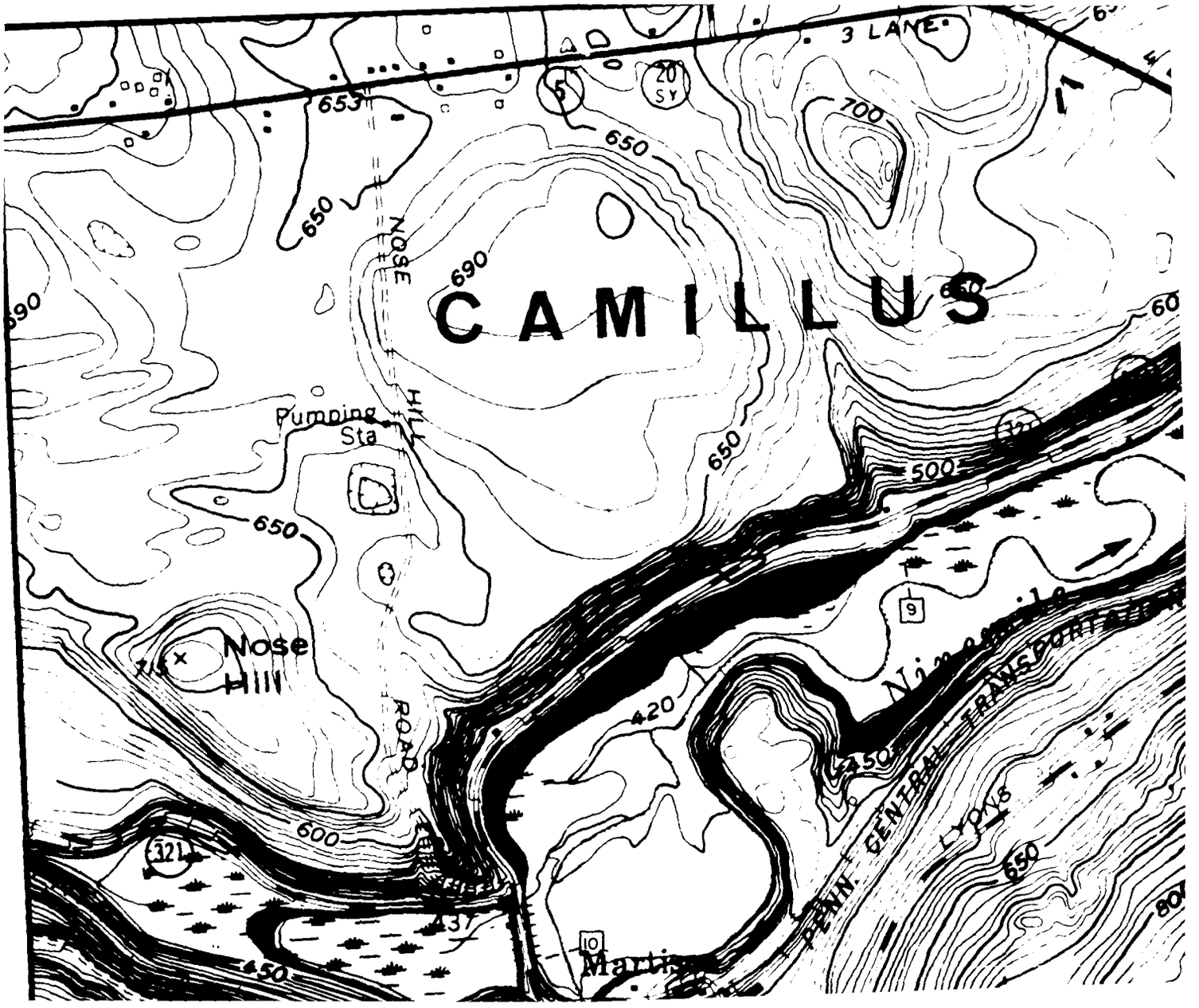
SCALE IN FEET

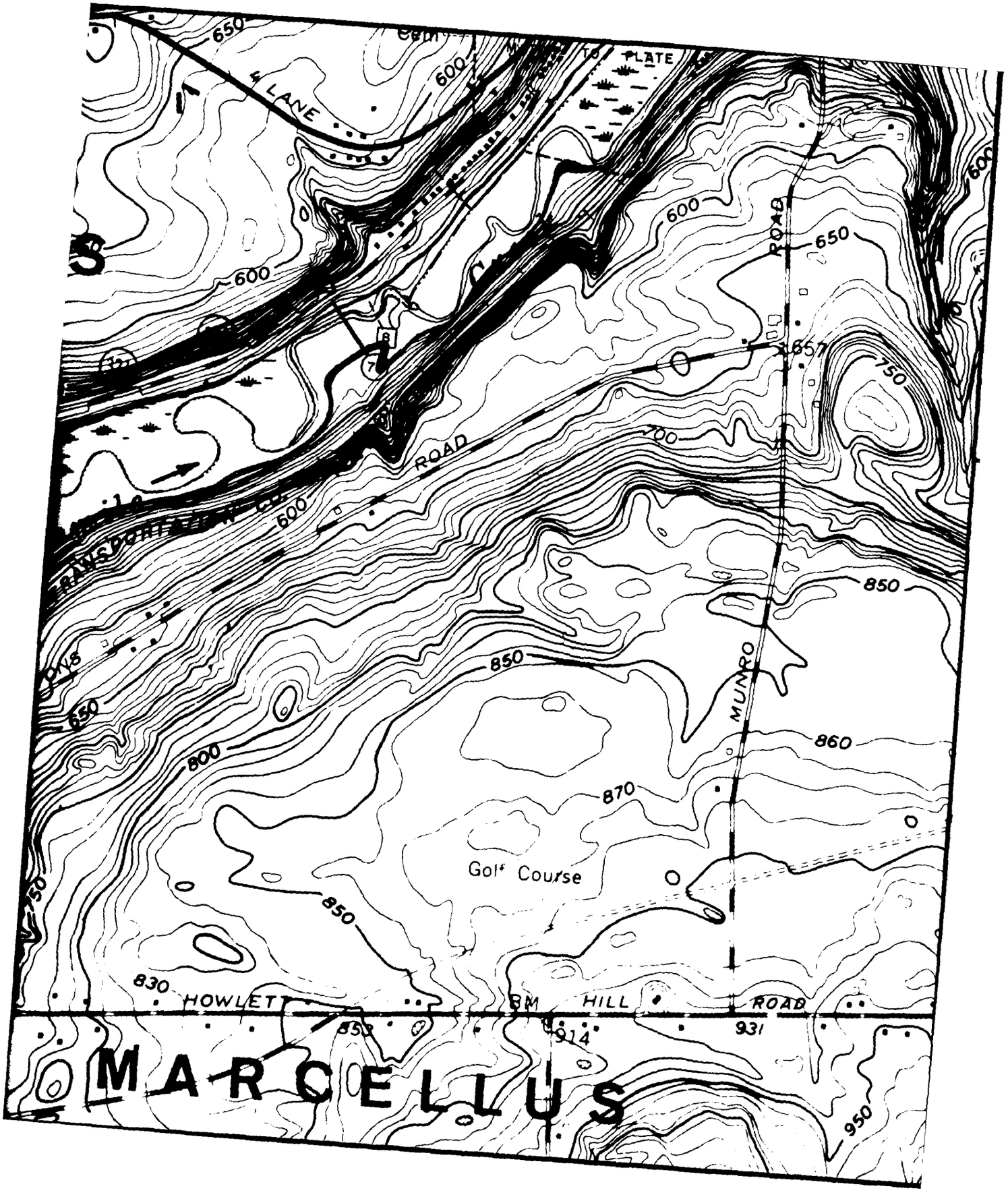
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

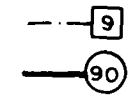
FLOODED AREAS

OCTOBER 1976


3 LANE
653
650
650
690
CAMILLUS
700
NOSE
HILL
Pumping Sta
650
500
650
Nose Hill
715
ROAD
420
450
600
321
437
9
10
PENN CENTRAL TRANSPORTATION
LYONS
650


4 LANE
TO PLATE
ROAD
650
600
700
750
850
860
870
MUNRO
Golf Course
HOWLETT
HILL
ROAD
914
931
MARCELLUS

LEGEND



MILES ABOVE MOUTH

CROSS SECTION

GROUND ELEVATION IN FEET MSL

CHANNEL

FLOW ARROW

NOTES:

MAP BASE PREPARED FROM PORTION OF U.S.G.S. QUADRANGLE CAMILLUS, N.Y. 1955 (7.5 MIN. SERIES TOPOGRAPHIC). MINOR CHANGES MADE BY CORPS OF ENGINEERS.

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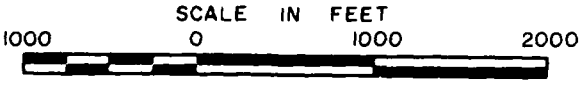
AREAS OUTSIDE THE FLOOD PLAIN MAY BE SUBJECT TO FLOODING FROM LOCAL RUNOFF.

CONTOUR INTERVAL 10 FEET

SCALE IN FEET

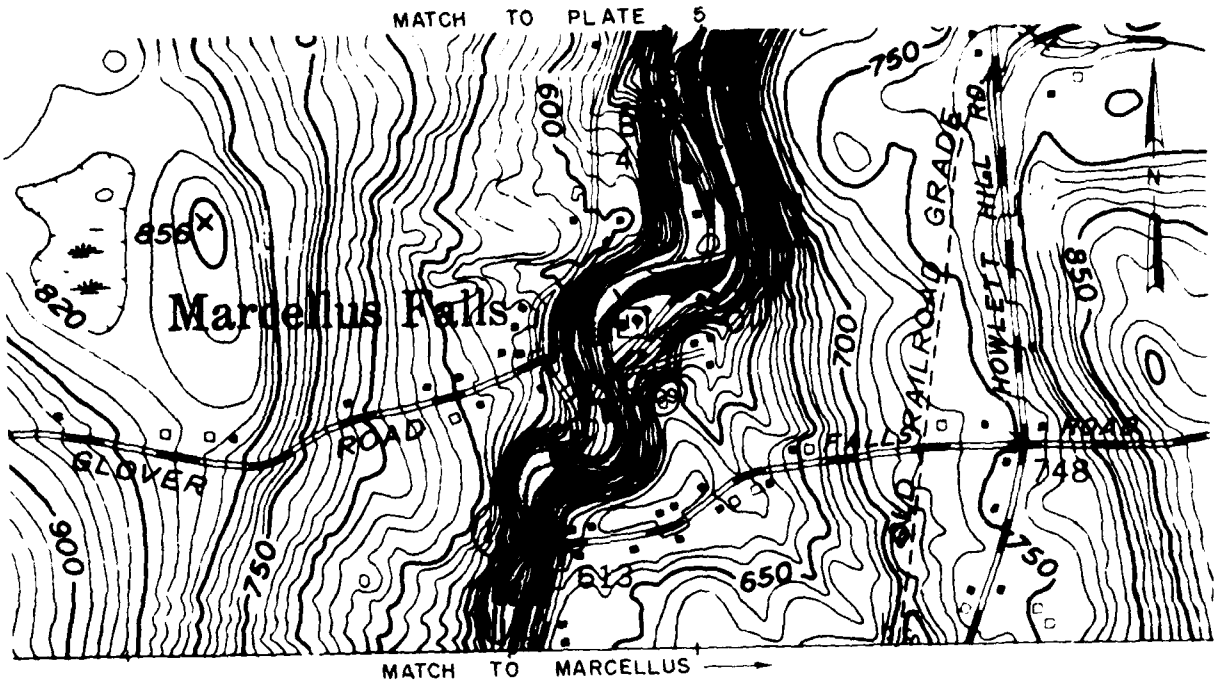


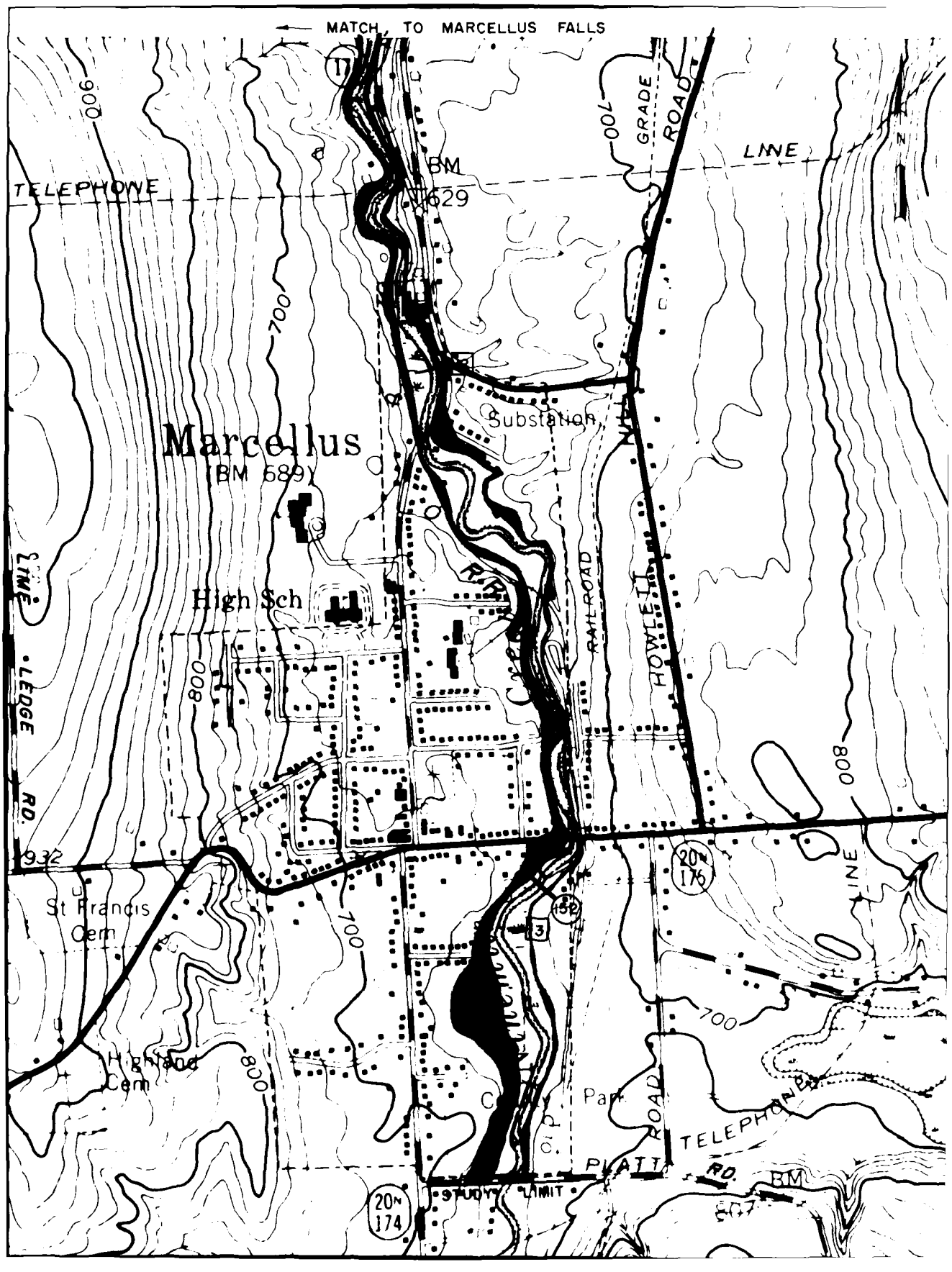
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

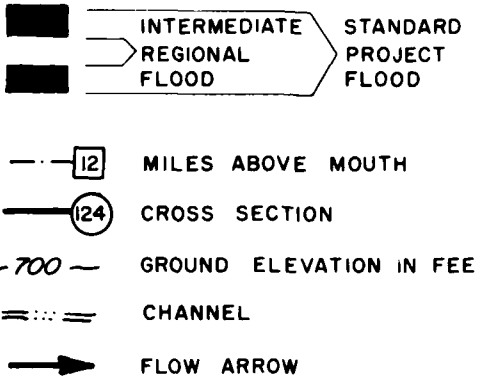
FLOODED AREAS

OCTOBER 1976


MATCH TO PLATE 5
Marcellus Falls
GLOVER ROAD
RAILROAD GRADE
HOWLETT HILL RD
856
820
900
750
700
650
850
748
MATCH TO MARCELLUS


MATCH TO MARCELLUS FALLS
TELEPHONE LINE
BM 629
GRADE ROAD
Substation
Marcellus
(BM 689)
High Sch
LIME LEDGE RD.
RAILROAD
HOWLETT LINE
St Francis Cem
Highland Cem
Park
TELEPHONE RD.
PLATT RD.
STUDY LIMIT
BM 607
932
600
700
800
11
13
152
20N 176
20N 174

LEGEND



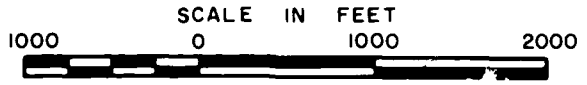
NOTES:

MAP BASE PREPARED FROM PORTIONS OF U.S.G.S. QUADRANGLES CAMILLUS, N.Y. 1955 AND MARCELLUS, N.Y. 1955 (7.5 MIN. SERIES TOPOGRAPHIC). MINOR CHANGES MADE BY CORPS OF ENGINEERS.

LIMITS OF OVERFLOW SHOWN MAY VARY FROM ACTUAL LOCATION ON GROUND AS EXPLAINED IN THE REPORT

AREAS OUTSIDE THE FLOOD PLAIN MAY BE SUBJECT TO FLOODING FROM LOCAL RUNOFF.

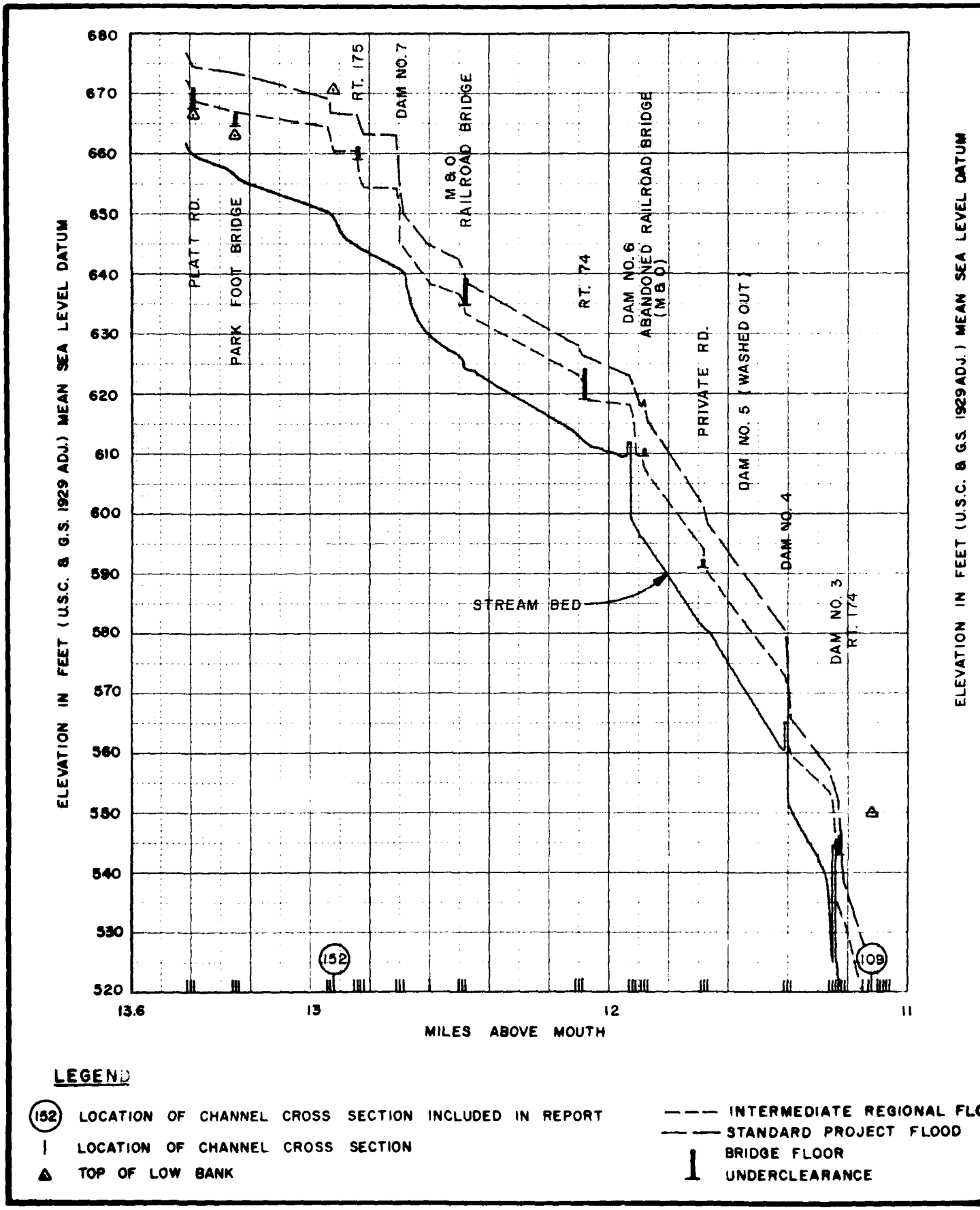
CONTOUR INTERVAL 10 FEET - MARCELLUS FALLS
CONTOUR INTERVAL 20 FEET - MARCELLUS

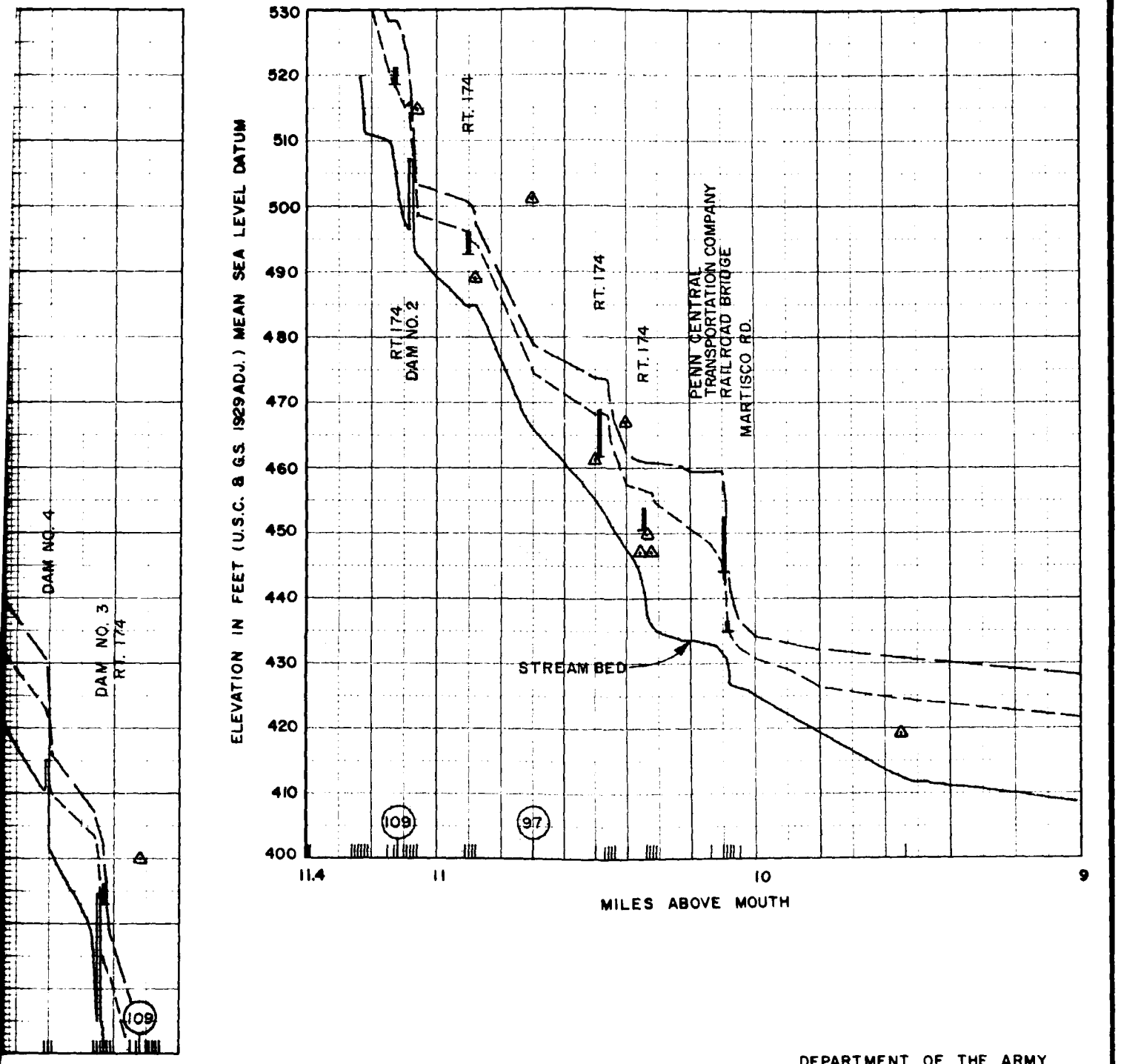


DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

FLOODED AREAS
OCTOBER 1976


ELEVATION IN FEET (U.S.C. & G.S. 1929 ADJ.) MEAN SEA LEVEL DATUM
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
13.6
13
12
11
MILES ABOVE MOUTH
PLATT RD.
PARK FOOT BRIDGE
RT. 175
DAM NO. 7
M & O RAILROAD BRIDGE
RT. 74
DAM NO. 6
ABANDONED RAILROAD BRIDGE (M & O)
PRIVATE RD.
DAM NO. 5 (WASHED OUT)
DAM NO. 4
DAM NO. 3
RT. 174
STREAM BED
152
109
ELEVATION IN FEET (U.S.C. & G.S. 1929 ADJ.) MEAN SEA LEVEL DATUM
LEGEND
152 LOCATION OF CHANNEL CROSS SECTION INCLUDED IN REPORT
LOCATION OF CHANNEL CROSS SECTION
TOP OF LOW BANK
INTERMEDIATE REGIONAL FLO
STANDARD PROJECT FLOOD
BRIDGE FLOOR
UNDERCLEARANCE



TERMEDIATE REGIONAL FLOOD
ANDARD PROJECT FLOOD
DGE FLOOR
DERCLEARANCE

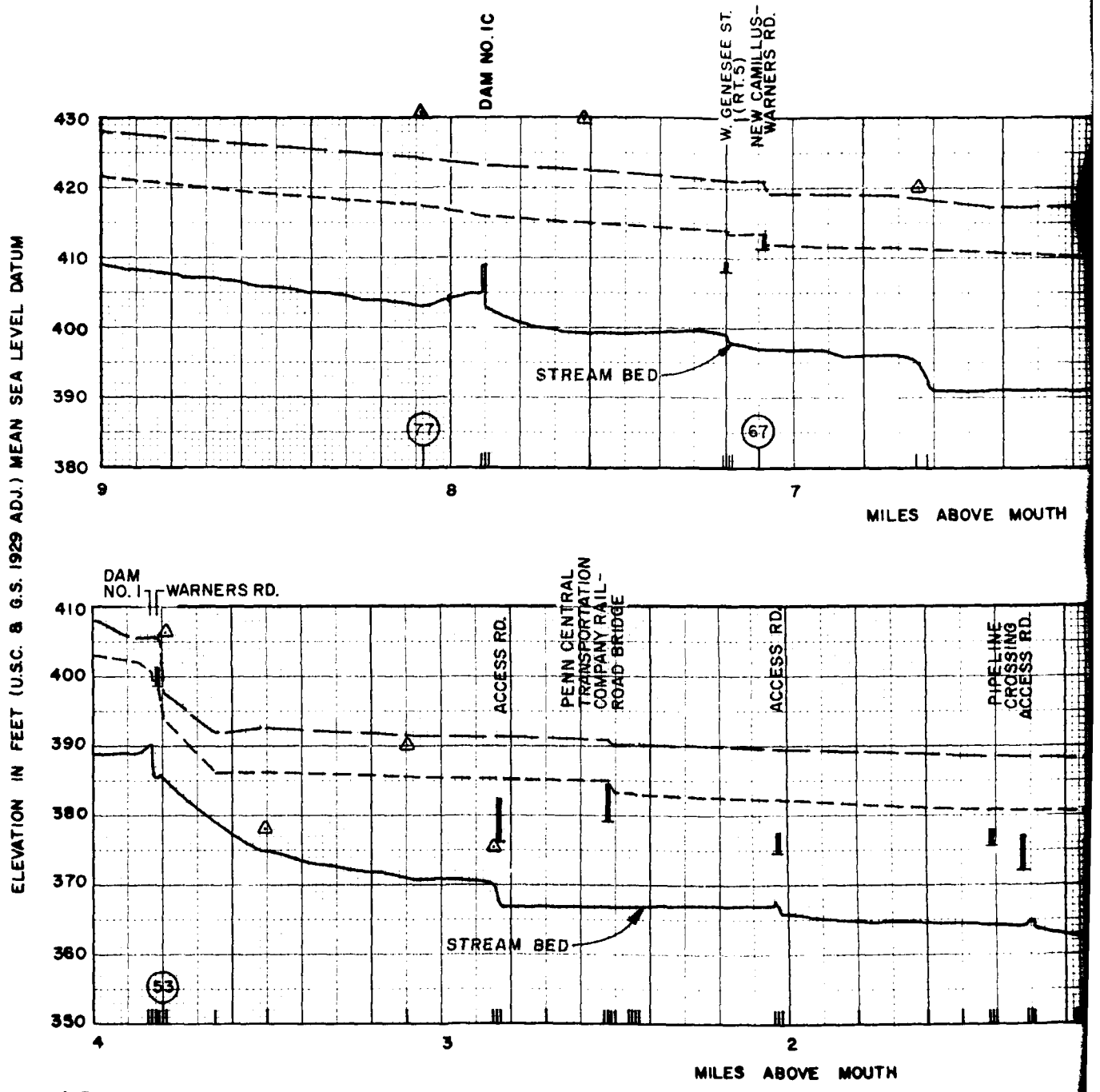
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

HIGH WATER PROFILES
NINEMILE CREEK

OCTOBER 1976

PLATE 7



LEGEND

(53) LOCATION OF CHANNEL CROSS SECTION INCLUDED IN REPORT

| LOCATION OF CHANNEL CROSS SECTION

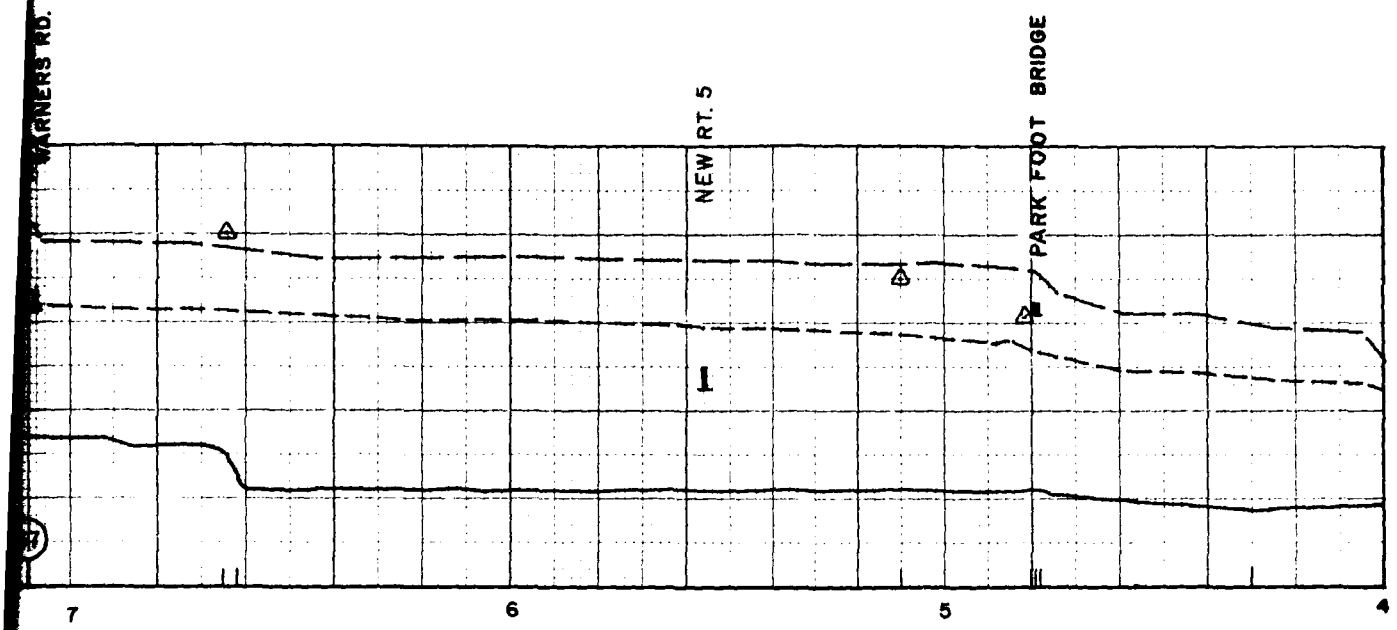
△ TOP OF LOW BANK

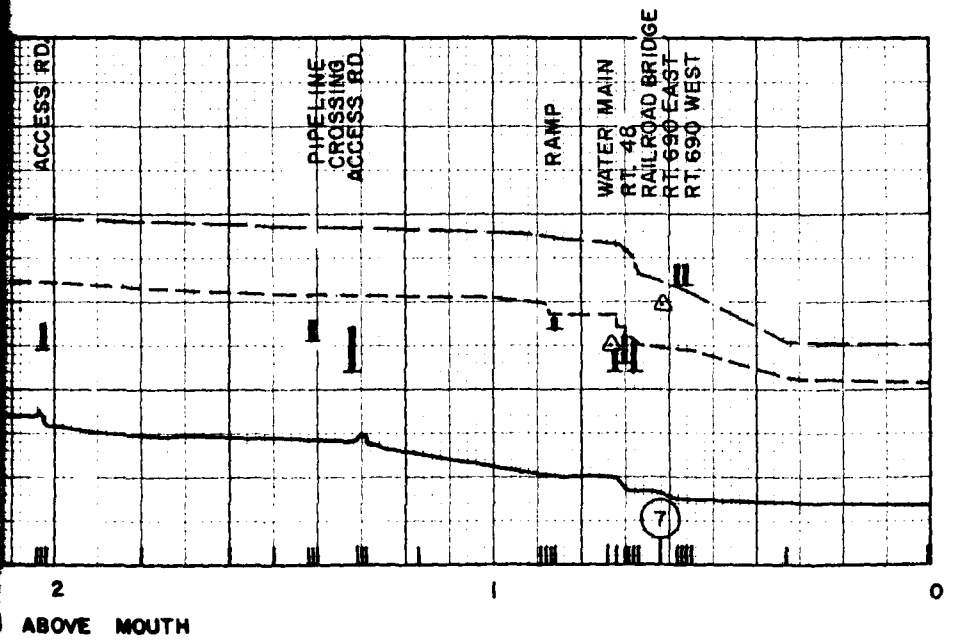
– – – INTERMEDIATE REGIONAL FLOOD

— — STANDARD PROJECT FLOOD

BRIDGE FLOOR

UNDERCLEARANCE



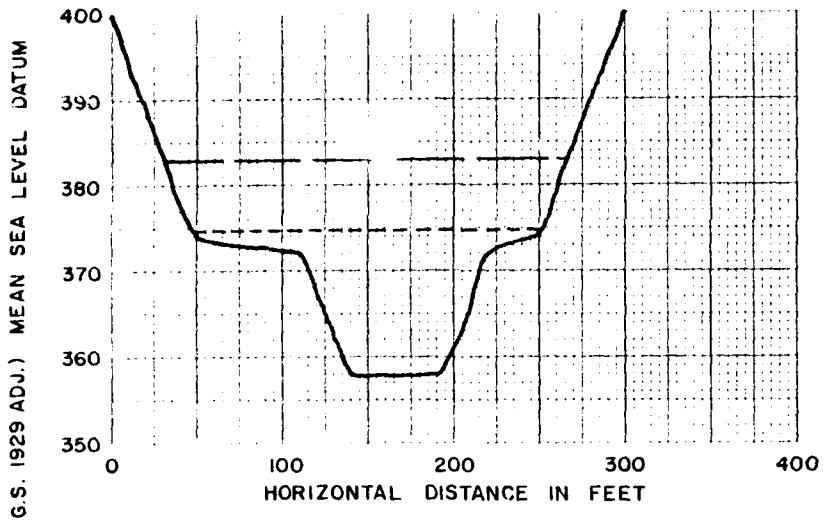


DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

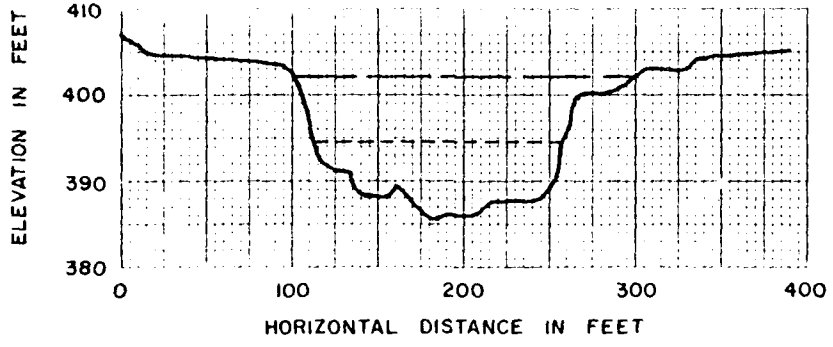
FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

HIGH WATER PROFILES
NINEMILE CREEK
OCTOBER 1976

PLATE 8



CROSS SECTION NO. 7
MILE 0.62



CROSS SECTION NO. 53
MILE 3.80

LEGEND

——— STANDARD PROJECT FLOOD
– – – – INTERMEDIATE REGIONAL FLOOD
SECTIONS TAKEN LOOKING DOWNSTREAM

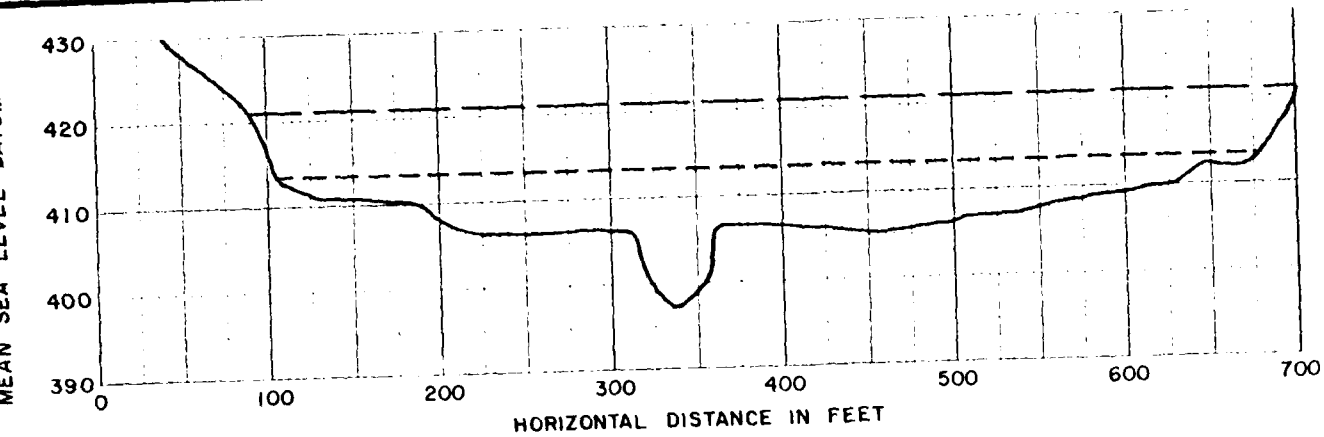
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

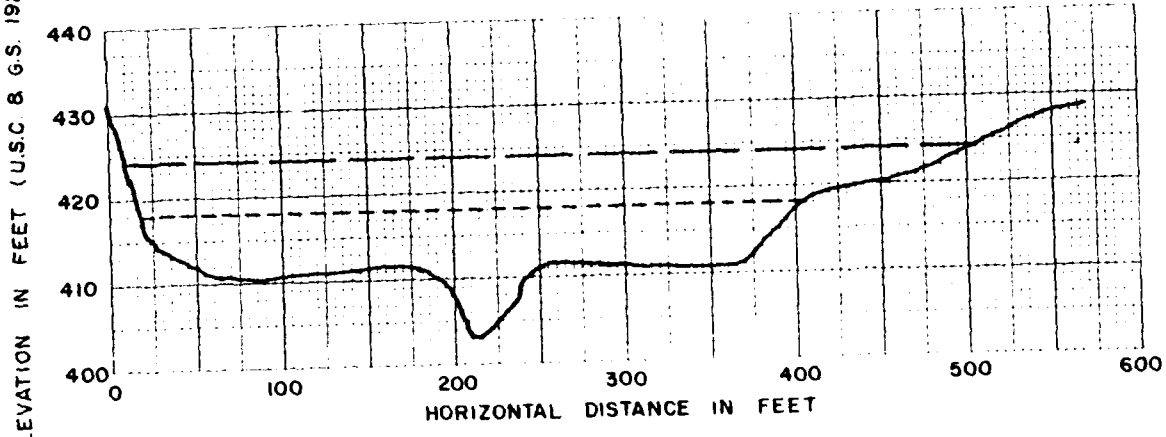
SELECTED CROSS SECTIONS
NINEMILE CREEK
OCTOBER 1976

PLATE 9

PLATE 9



CROSS SECTION NO. 67
MILE 7.1



CROSS SECTION NO. 77
MILE 8.08

ELEVATION IN FEET (U.S.C. & G.S. 1929 ADJ.) MEAN SEA LEVEL DATUM

LEGEND

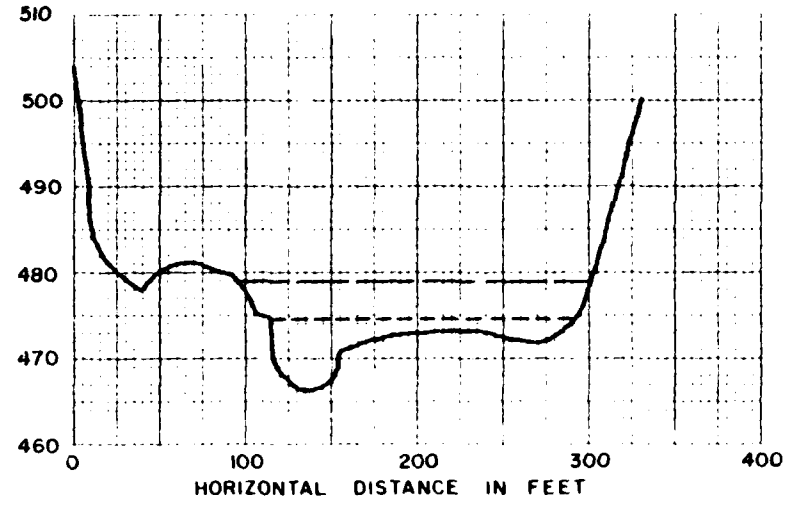
——— STANDARD PROJECT FLOOD
– – – – INTERMEDIATE REGIONAL FLOOD
SECTIONS TAKEN LOOKING DOWNSTREAM

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK
FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

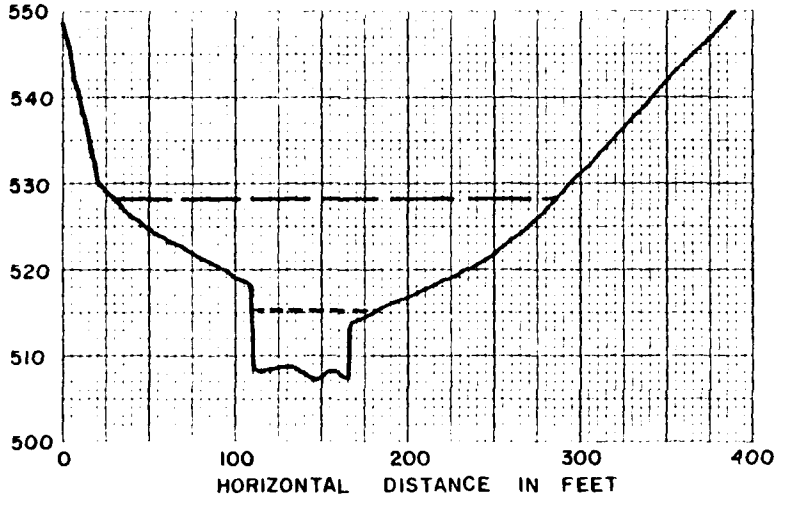
SELECTED CROSS SECTIONS
NINEMILE CREEK
OCTOBER 1976

PLATE 10

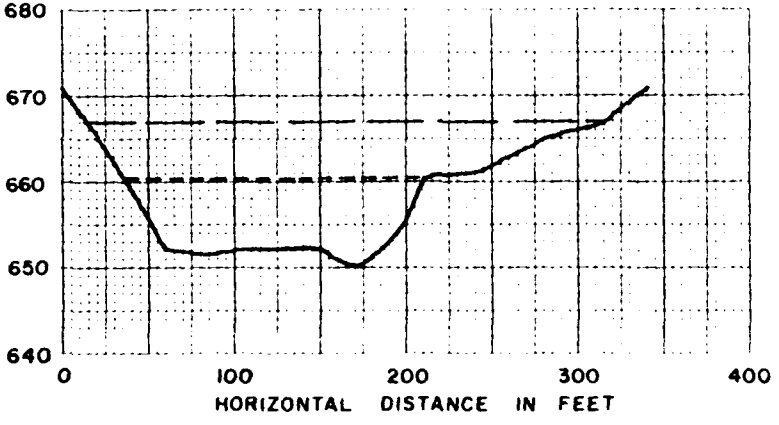
PLATE 10



CROSS SECTION NO. 97
MILE 10.7



CROSS SECTION NO. 109
MILE 11.12



CROSS SECTION NO. 152
MILE 12.92

LEGEND

——— STANDARD PROJECT FLOOD
– – – – INTERMEDIATE REGIONAL FLOOD
SECTIONS TAKEN LOOKING DOWNSTREAM

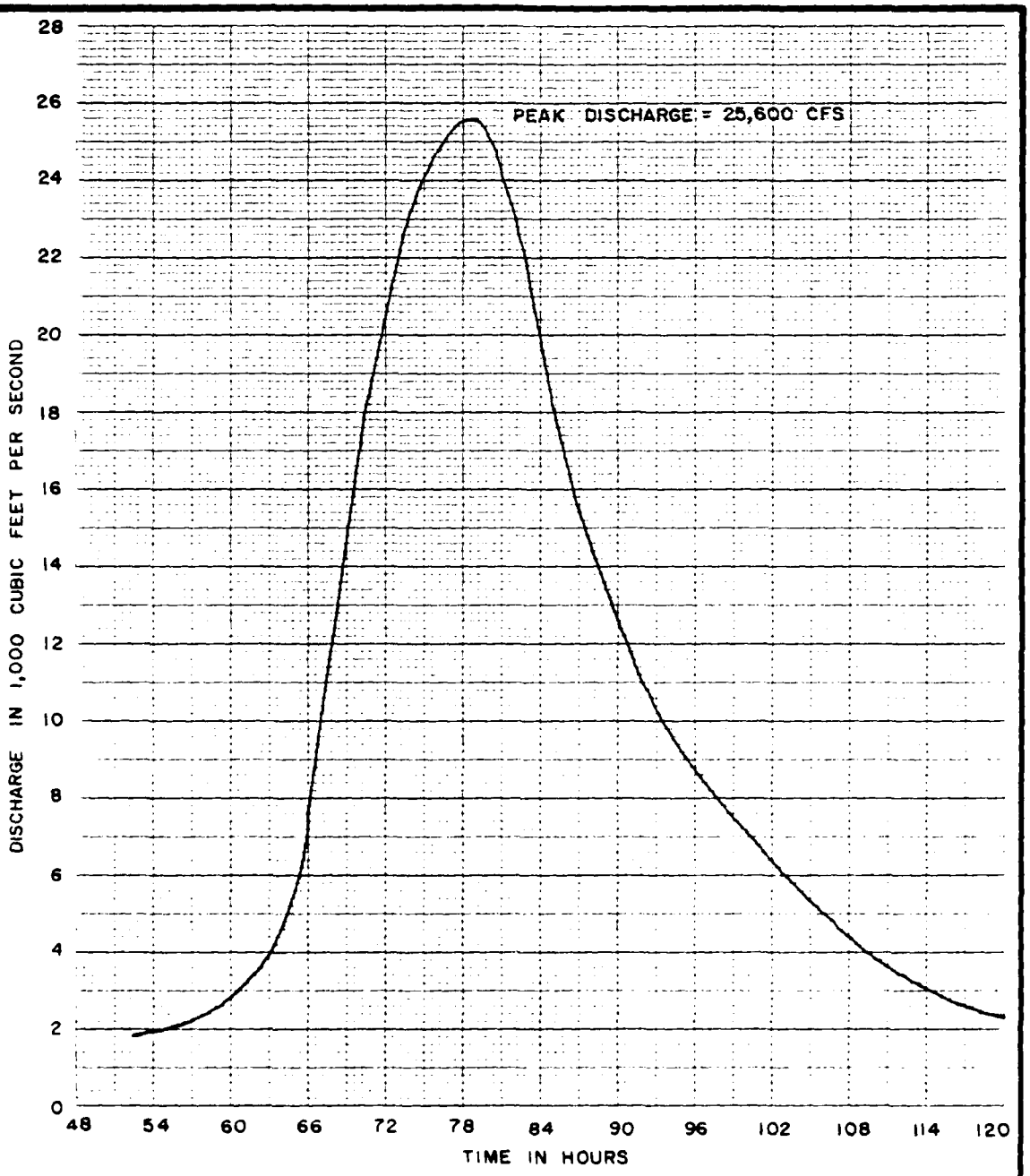
DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

SELECTED CROSS SECTIONS
NINEMILE CREEK
OCTOBER 1976

PLATE 11

PLATE 11

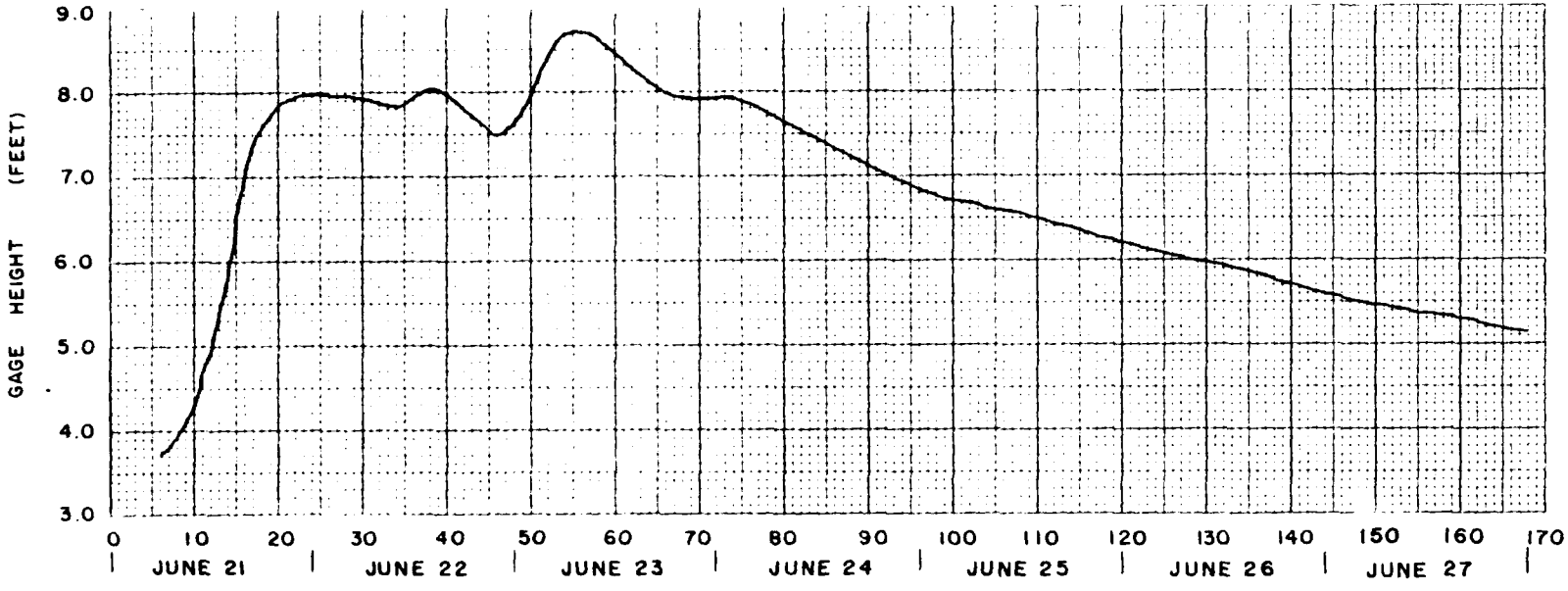


DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

STANDARD PROJECT FLOOD HYDROGRAPH
AT LAKELAND GAGING STATION
NINEMILE CREEK
OCTOBER 1976

PLATE 12



DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
BUFFALO, NEW YORK

FLOOD PLAIN INFORMATION
NINEMILE CREEK
ONONDAGA COUNTY, NEW YORK

CAMILLUS GAGING STATION
JUNE 1972
STAGE HYDROGRAPH
OCTOBER 1976

NOTE:
DATUM OF GAGE IS
398.56 FEET ABOVE MEAN SEA LEVEL

PLATE 13

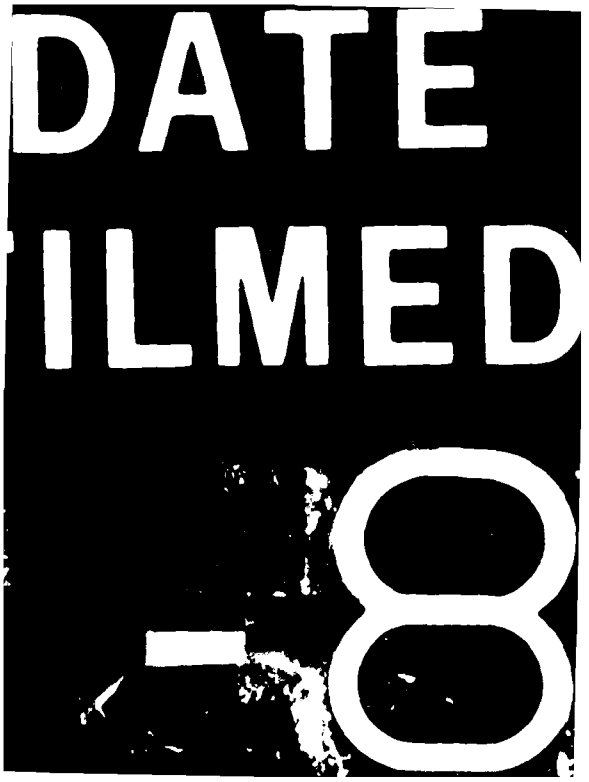
PLATE 13

TABLE OF ELEVATION REFERENCE MARKS

Elevation Reference Mark Number	Elevation (ft msl)	Description of Reference Mark
1	376.4	Chisel cross mark on anchor bolt located in concrete block on left bank upstream side of the access road bridge at 1.31 miles.
2	383.7	Chisel square mark on top of concrete abutment of Penn Central Transportation Co. bridge, on the downstream right bank, at 2.52 miles.
3	397.4	Chisel square mark on southeast corner of right bank downstream side wing wall of Van Buren Road bridge.
4	402.1	Chisel cross mark on right bank downstream side bridge rail of Warners Road bridge.
5	413.4	Chisel square mark, marked with yellow paint, on the right bank downstream side of Old Aquaduct bridge.
6	412.0	Chisel square mark on right bank upstream concrete wing wall, marked with yellow paint, on side of Route 5 bridge in Camillus.
7	452.8	Chisel cross mark on top steel rail (on west side of Route 174) on Penn Central Transportation Co. bridge
8	467.4	Square chisel mark on left bank downstream side concrete wing wall of Route 174 bridge at 10.48 miles.
9	497.5	BM E179, on left bank, downstream concrete headwall of Route 174 bridge at 10.9 miles.
10	550.7	Chisel square mark on right bank, upstream side concrete wall of Route 174 bridge at 11.23 miles.

TABLE OF ELEVATION REFERENCE MARKS (Continued)

Elevation Reference Mark Number	Elevation (ft msl)	Description of Reference Mark
11	593.9	Top of graphite monument on right bank, upstream side near road edge on private drive at 11.68 miles.
12	613.6	Chisel cross mark on top of right bank upstream side steel parapet of the railroad bridge at 11.88 miles.
13	625.5	Chisel square mark on left bank downstream side concrete wing wall of Route 174 bridge at 12.08 miles at Marcellus.
14	664.0	Chisel cross on right bank upstream side, most easterly anchor bolt of Seneca Turnpike bridge rail.


DATE
ILMED
8